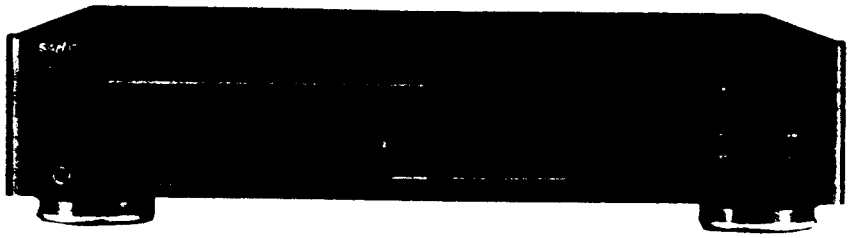
SANYO

Service Manual

Compact Disc Player

CP8500 (SPAIN) (EUROPE) (W.GERMANY) (ITALY)



ECIFICATIONS

Audio	
Channels	2 channels
Frequency response	5 – 20,000 Hz
S/N notio	102 dB
Channel separation	90 dB (1 kHz)
Distortion	0.005% (1 kHz)
Wow and flutter	Undetectable
Analog output	1.8 V/1k ohms
Digital output	–21 to –15 dB
Signal format	
Sampling frequency	44.1 kHz
Quantization	16 bits linear/ channel
Transmission rate	4.32 Mbit/sec.
Pickup	
System	Light pickup (3-beam)
Light source	Semiconductor laser
Wave length	790 nm
General	
Power supply	AC 220V, 50Hz
Dimensions (approx.)	420(W) x 95(H) x 350(D) mm

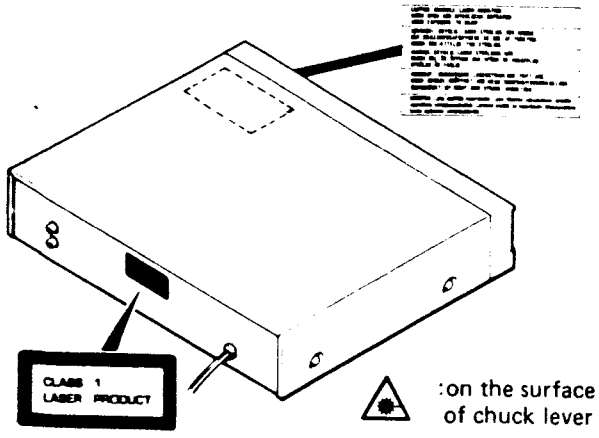
Specifications and design subject to change without notice.

PRODUCT CODE No.
137 041 00 (SPAIN)
137 041 01 (EUROPE)
137 041 02 (W. GERMANY)
137 041 03 (ITALY)

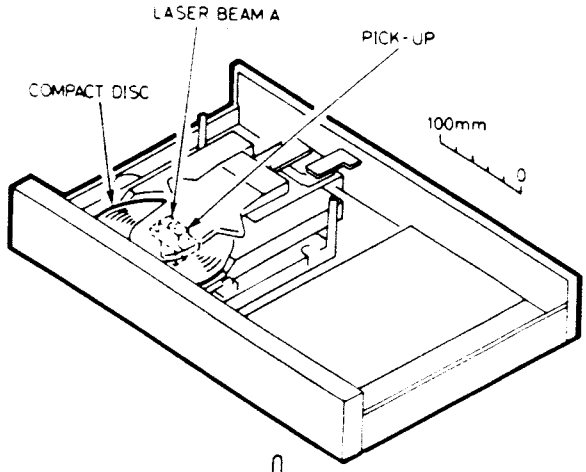
REFERENCE No. WM-580261

LASER BEAM SAFETY PRECAUTIONS

(1) A Pick-up that emits a laser baam is used in this compact disc player.



(2) The laser beam is emanated from the location shown in the figure.



If the disc chuck lever is removed, the pick-up is exposed.
Do not look at the pick-up with the power switch ON.

Do not look directly at the laser beam coming from the pick-up or allow it to strike against your fingers, skin, etc.

Do not apply power if there is a broken part in the laser output section of the pick-up.

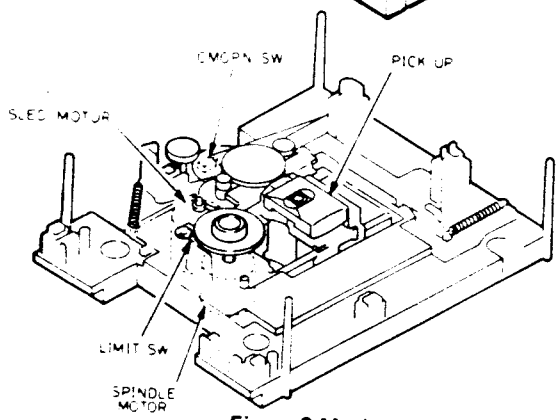
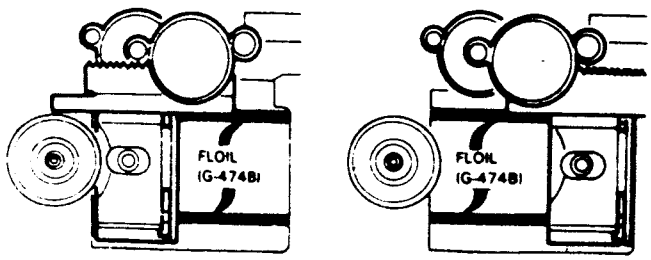


Figure 3 Mechanism Parts Location

PICK-UP REPLACEMENT

(1) When replacing the pick-up, carefully wipe away the grease from the shafts on which the pick-up is mounted.
(2) Replace the pick-up.
(3) Move the pick-up to the position at the left side, and then apply a coating of floil (G-474B) to the two shafts.
(4) Move the pick-up to the right side and apply floil to the remaining parts of the shafts.

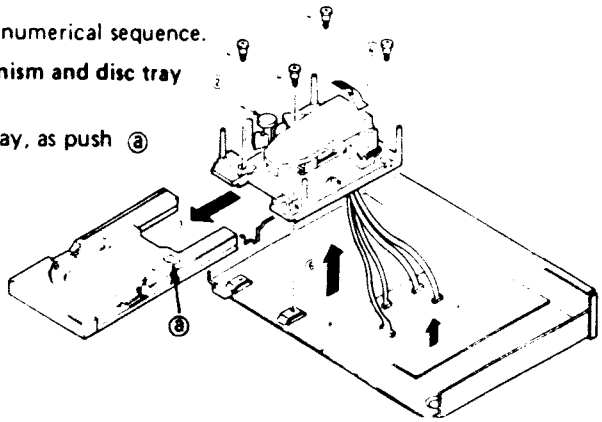


HOW TO DISASSEMBLE THE UNIT

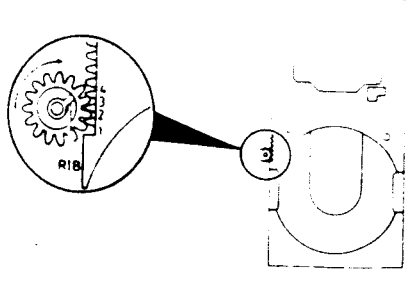
- Remove the compact disc if there should be one on the disc tray.
- Switch the power OFF, and unplug the AC power cord from an AC outlet.
- Disassemble in the numerical sequence.

1. **Removal of mechanism and disc tray**

Pull out the disc tray, as push ⓐ Hook.



When assemble the unit, set the gear as shown in Figure after reinserting the disc tray.

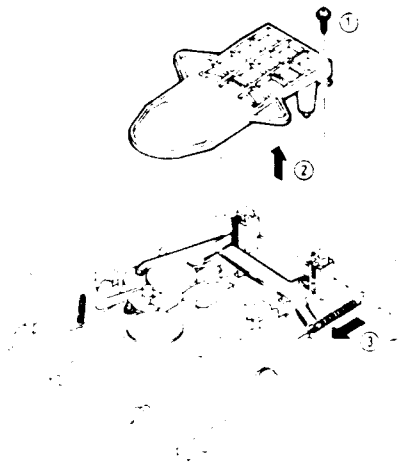


Note: Match the lib of gear to the fourth ditch of the tray.

HOW TO DISASSEMBLE THE UNIT

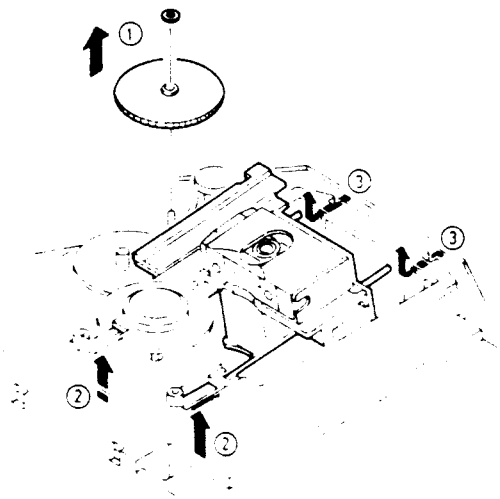
2. Replacement the pick up

a. Removal of disc chuck lever



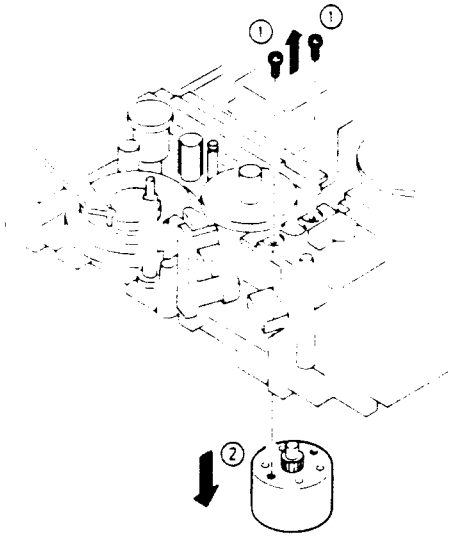
• Pull the lever to front side 3 , when reassemble disc chuck lever.

b. Removal of pick up



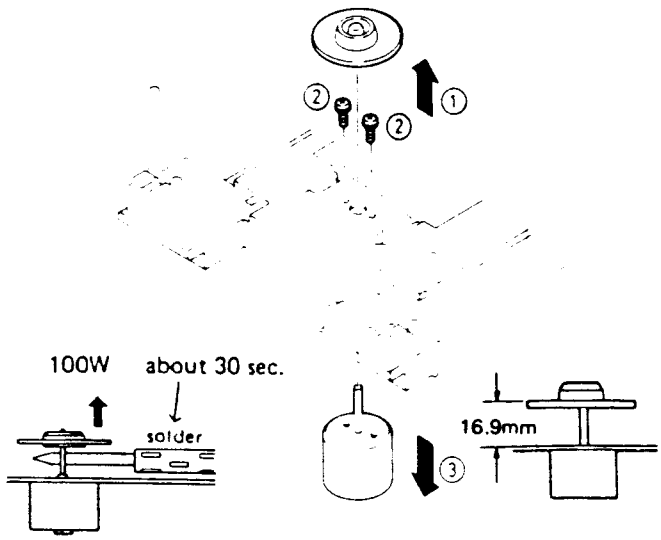
• Push the shaft 3 to front side as to push up the lib 2 , and be free the shaft.

3. Removal of the sled (& loading) motor



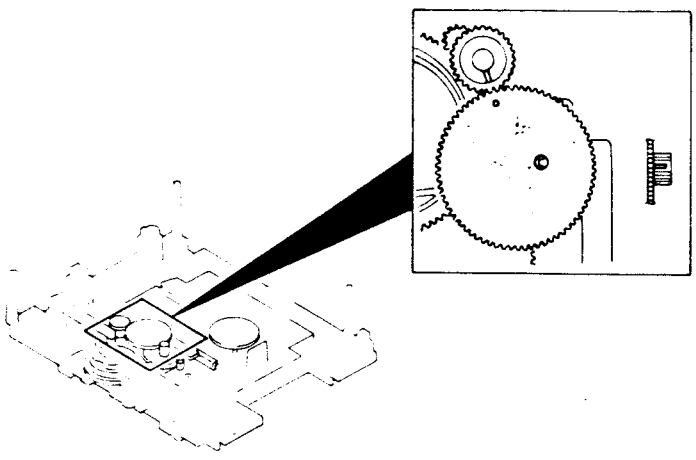
4. Removal of the spindle motor

Insert the solder between turn table and based mechanism chassis when dissolve the adhesive cement. and then, add to heat with 100W solder about 30 sec.



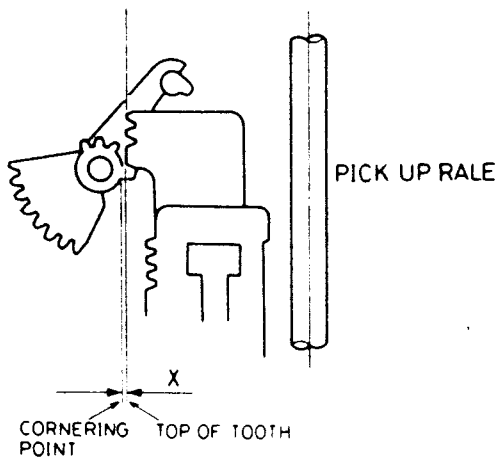
5. Pick up transported gear alignment

With the gears aligned, as shown in the figure at, below insert the pickup drive gear. Match the open space of the pinion with the first gap between gears of the rack.



6. Pick up transported rack gear alignment.

Should be X = 0 ~ 0.1 mm.



ADJUSTEMTNS

◎ **Mechanism Adjustment**

Adjustments of pressure against ratchet gear.

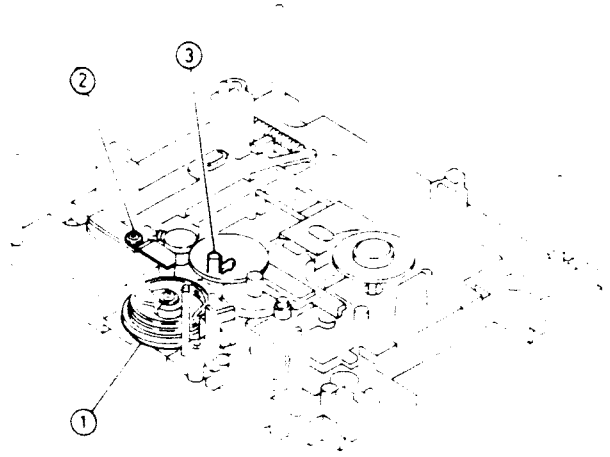


Fig-1

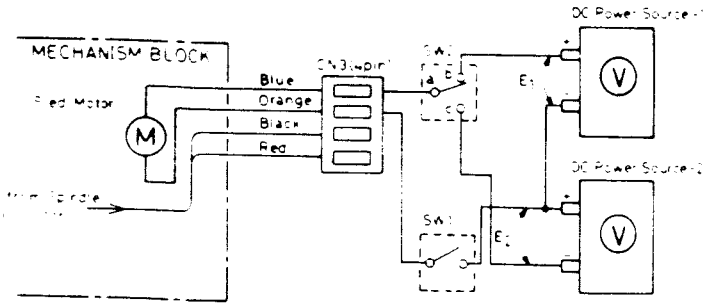


Fig-2

1. Connect the Mechanism to the instrument (DC Power Source & SW) as shown in Fig-2.
2. With E1 = 5.0 ± 0.05V, operate SW2 to close contacts a-b. Then switch on SW1 and, after securing the pickup at the innermost position, initiate the mechanism open operation so that the cam gear stops at the open end position.
3. With voltage applied as described in (2), loosen the adjustment screw ② and operate the ratchet.
4. Tighten the adjustment screw until the operation of the ratchet gear ① stops.
5. Then, with E2 = 4.2V, operate SW2 to close contacts a-c. Switch off SW1 when the chucking lever starts to move.
6. With E1 = 4.6 ± 0.05V, operate SW2 to close contacts a-b, switch on SW1, and check to be sure that the ratchet does not operate even if the cam gear is at the open end position.
7. Operate SW2 to close contacts a-c, and switch off SW1 when the chucking lever begins to move.
8. With E1 = 5.3 ± 0.05V, operate SW2 to close contacts a-b and switch on SW1. Check to be sure that the ratchet operates when the cam gear reaches the open end position.
9. Use Cemedine #575 to secure the space between the outer circumference of the adjustment nut and the spring plate.

The ratchet is operating if the gear sounds are heard three times or more.

Two times or less: not operating

The starting voltage of ratchet operating must be between 4.6V and 5.5V.

If the adjustment described above is difficult to make, repair as described below.

Case 1 The adjustment screw is tightened almost for the adjustment (4), but the check in (6) in NG.

Countermeasure

The problem may be that the play of the vertical two-step ratchet gear is excessive, so add a 0.13t washer to the 0.25t washer located beneath the ratchet gear.

As a confirmation, other than the adjustment described previously, the pickup transport current must be within the allowable range.

Pick up transport corrent: 8.0 mA ~ 20 mA

Case 2 If, as a result of the confirmation in (8), the ratchet is not operating, or if the pickup transport current is high, follow the steps below.

Countermeasure

Because it is possible that the problem is not play of the vertical two-step ratchet gear, but that the ratchet gear is being constantly pressed, replace the 0.25t washer (located beneath the ratchet gear) with a 0.13t washer.

ADJUSTEMTNS

◎ **Electrical Adjustment**

So far we have presented explanations regaring compact disc player handing, notes prior to repair, handing the pick-up and disassembly of the unit. Be sure to carefully read these instructions before making any adjustments.

Test Discs Required for Adjustments and Checks

No.	Designation	Description (manufacturer)
1	414 245-2	for demonstration (Polygram)

NOTE: Test discs are subject to change without notice.

ADJUSTMENTS

Measuring Instruments Required for Adjustments

Designation	Contents
Oscilloscope	10 MHz class or DC Volt meter
Storage scope	DSS6521 (for example)
AF oscillator	Low frequency oscillator
Band pass filter	See the fig. 1.2 on page
Frequency counter	More than 5 MHz
Driver for adjustment	Must be non-metallic

NOTE: Use a probe when using an oscilloscope, storage scope, digital volt meter to observe the signal. Be sure connect the probe ground to the adjustment controls (SVR) are shown in Parts Location on page 00.

1. PLL VCO (Phase Locked Loop Voltage Control Oscillator) Adjustment

1. Connect TP6 to TP4 (Gnd).
2. Connect the frequency counter to TP7(H) and TP4 (or chassis).
3. Turn on the power of the unit.
4. Adjust SVR203 so that the frequency counter shows 4.40 ± 0.005 MHz.

- If this adjustment is imperfect, get the long seek time, not read TOC, not sound, in the worst case, become high speed turning, reverse turning and it may wound the disc.

2. Tracking Balance Adjustment

1. Connect the oscilloscope to TP3 (T.E) and TP4 (Gnd).
2. Turn on the power of the unit.
3. Play the test disc.
4. Continue doing to press the search ▸▸ or ◂◂ button to do it.
5. Adjust SVR101 so that the TE (Tracking Error) signal waveform of TP3 on the oscilloscope is vertically symmetrical relative to 0V. (see Fig. 1)

- **Other adjustment**

1. Try the upper step 1, 2, 3.
2. Turn SVR202 to left end, or short Q201 emitter and collector electrically.
3. Adjustment SVR101 so that the TE signal (Traverse) waveform of TP3 during about 5-sec on the oscilloscope is vertically symmetrical relative to 0V. (see Fig. 2)

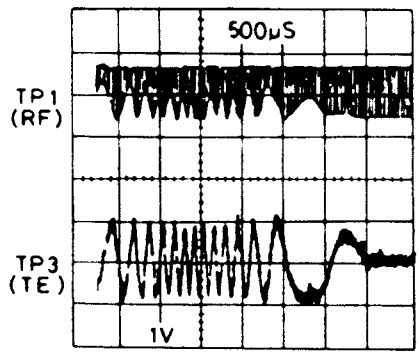


Fig. 1

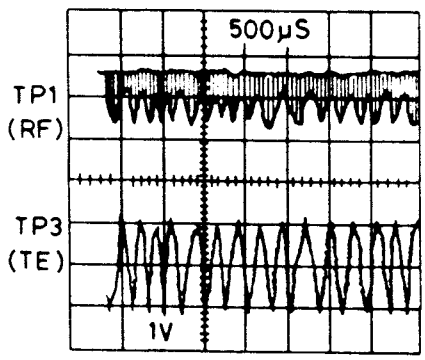


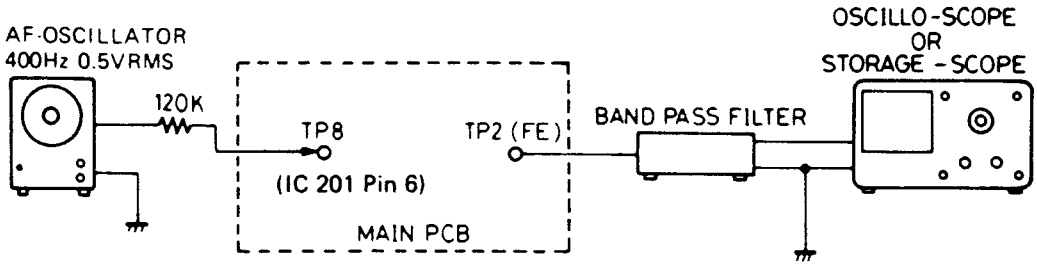
Fig. 2

- If the adjustment is imperfect, become run away the spindle motor (pick up sending motor), inferior playability.

ADJUSTMENTS

3. Focus Gain Adjustment

1. Connect the storage scope to TP2 (F.E) through the Band pass filter-1 (see fig.), or connect the AC voltage meter to TP2 through the Band pass filter-2 (see fig.).
2. Turn on the power switch.
3. Play back the test disc.
4. Set the output of AF oscillator to 400Hz, 0.5V rms, then connect its output to TP8 (IC201, pin 3) through Resistor 120K ohm.
5. In case of the storage scope (through the B.P.F-1), adjust SVR201 so that the voltage of the FE signal waveform is 600 mVp-p. In case of the AC voltage meter (through the B.P.F-2), adjust SVR201 so that the voltage of the FE signal waveform is 600 mV rms. (permitted quantity : 5%)



- If this adjustment is imperfect, become weak the mechanical shock, inferior playability, and cannot play lack the disc.

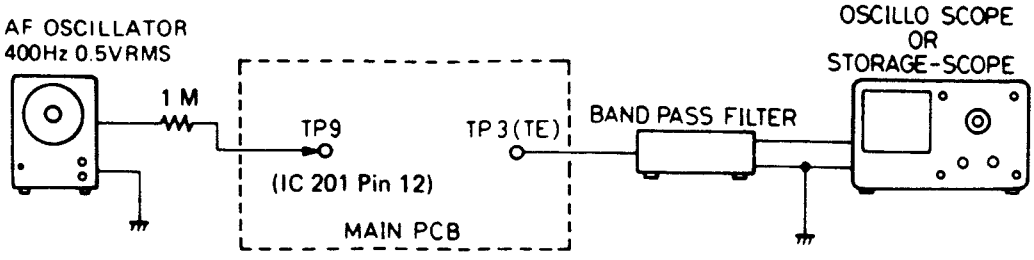
4. Focus Offset Adjustment

1. Connect the oscilloscope, or storage scope to TP2.
2. Play back the test disc and observe the DC offset voltage available at TP2 with the oscilloscope or storage scope that voltage.
3. Press the stop switch.
4. Adjust SVR102 so that the DC offset voltage then available at TP2 is the same as the voltage observe in step 2.

- If this adjustment is imperfect, become inferior playability, and cannot play back the disc by missing of Focus search.

. Tracking Gain Adjustment

1. Connect the storage scope to TP3 (TE: Tracking error) through the B.P.F-1 (see fig.), or connect the AC voltage meter to TP3 through the B.P.F-2 (see fig.).
2. Turn on the power of the unit.
3. Play back the test disc.
4. Set the output of the AF oscillator to 400 Hz, 0.5V rms, and connect to TP8 through the resistor: 1 M ohm.
5. In case of the storage scope (through the B.P.F-1), adjust SVR202 so that the voltage of the FE signal waveform is 600 mVp-p. In case of the AC voltage meter (through the B.P.F-2), adjust SVR202 so that the voltage of the signal waveform is 600 mV rms.
(permitted quantity: 5%)



ADJUSTMENTS

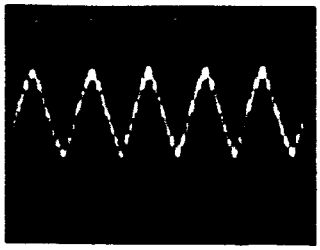
- If this adjustment is imperfect, become weak the mechanical shock, inferior playability, and cannot play back the disc.

6. MSB Adjustment for D/A Converter

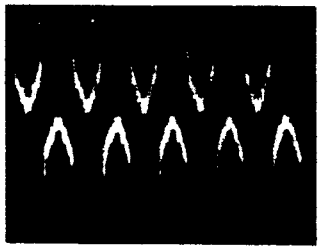
1. Connect the AC voltage meter to the audio signal L-ch and R-ch (fixed output).
2. Turn on the power of the unit.
3. Play back TNo, 19 (–80 dB) of the test disc: YEDS-7.
4. Adjust SVR501 so that the AC voltage of the audio signal L-ch is –79.5 dB.
   (permitted quantity: ±0.5 dB)
5. Similarly adjust SVR502.

- If this adjustment is imperfect, become lineality error, bad distortion and bad tone quality.

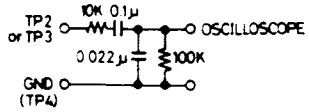
Signal waveform OK



NG

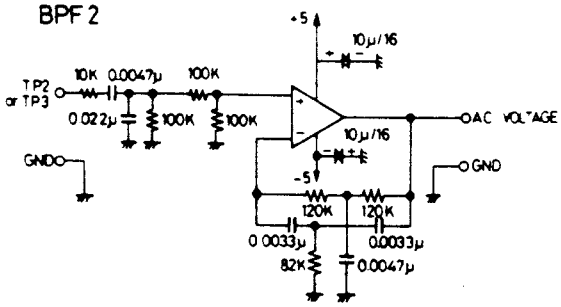


BPF 1



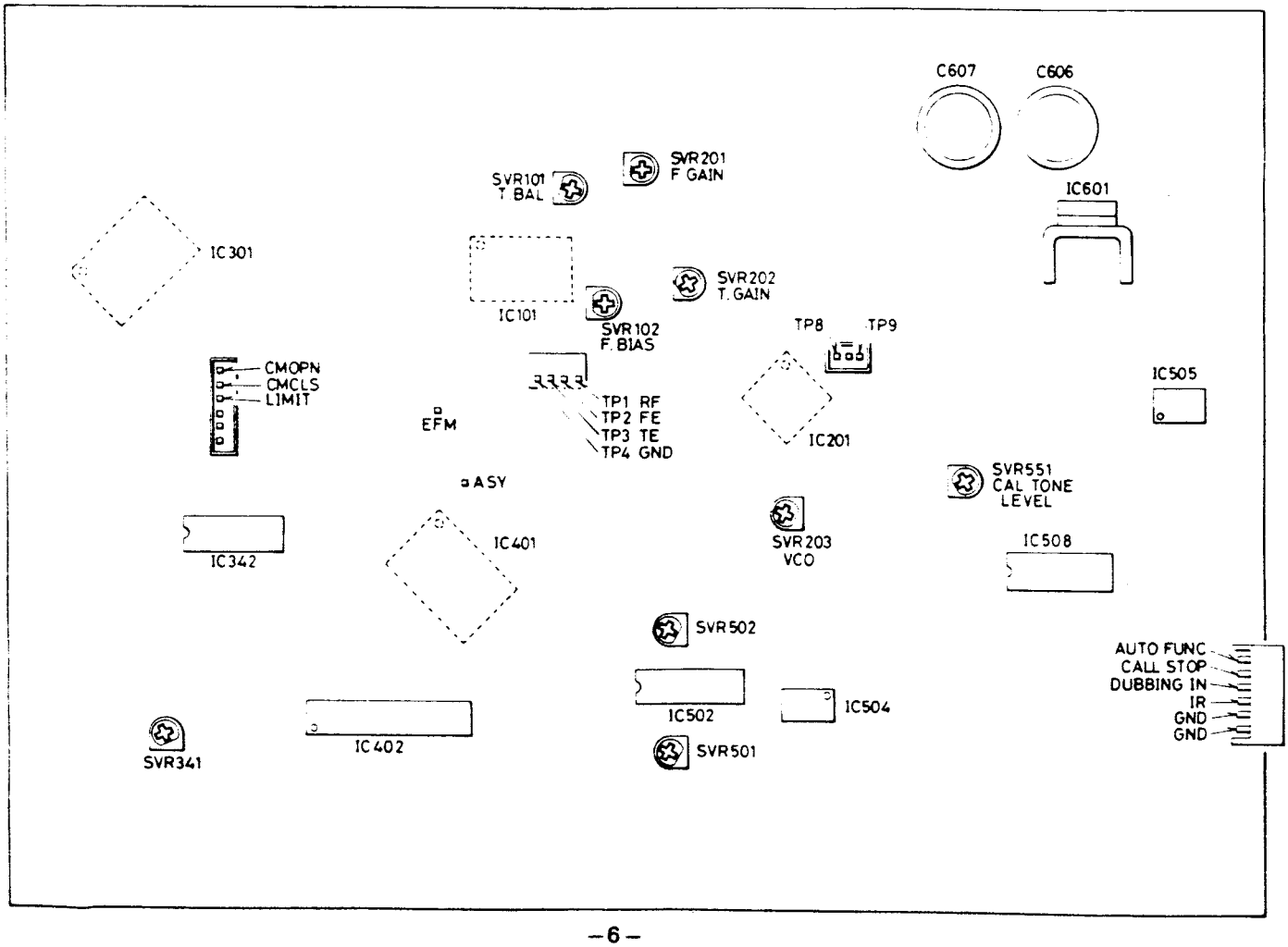
BAND PASS FILTER 1

BPF 2

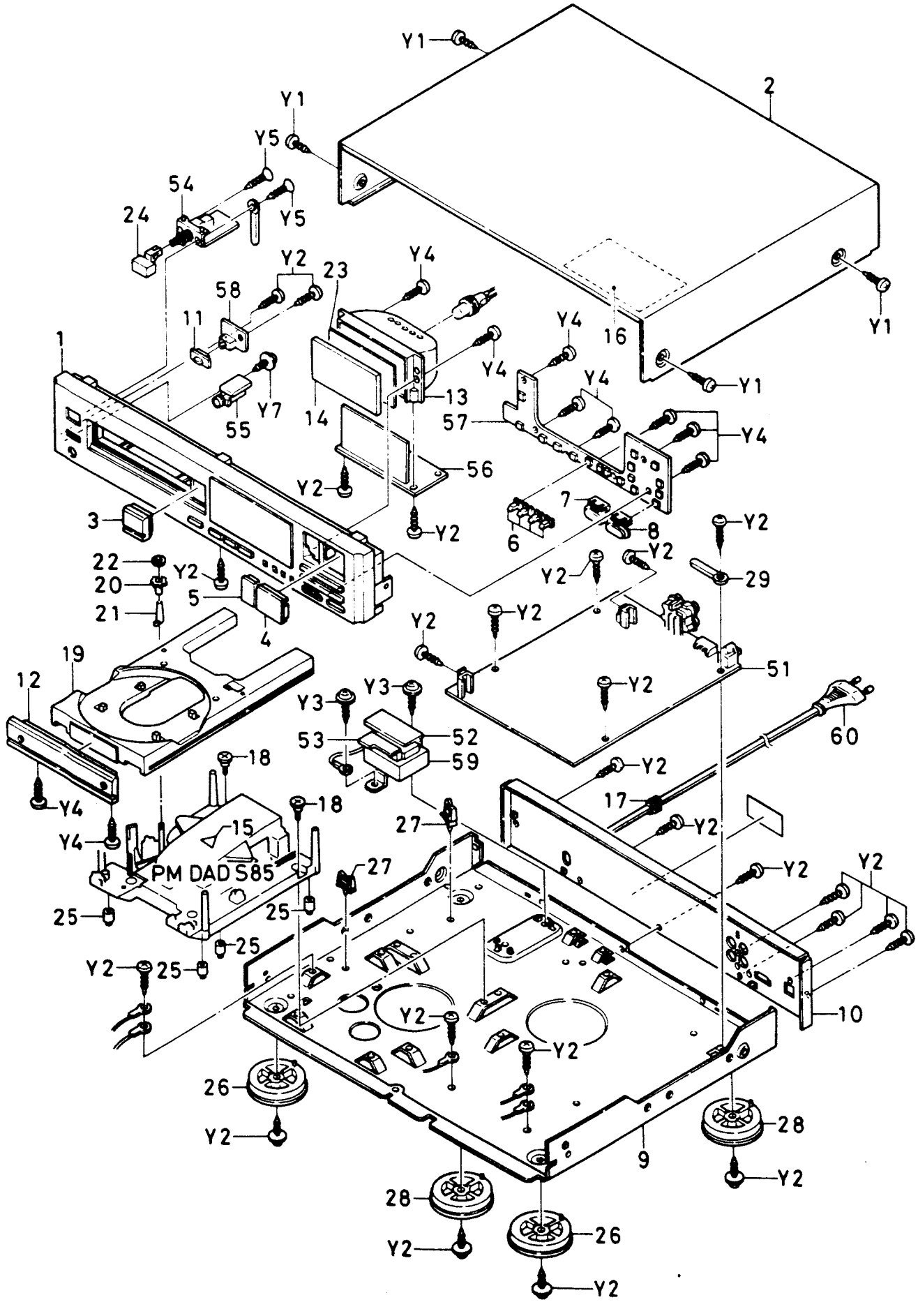


BAND PASS FILTER 2

PARTS LOCATION



CABINET & CHASSIS EXPLODED VIEW



PARTS LIST

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual.
Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

CAUTION : Regular type resistors and capacitors are not listed. To know those values, refer to the schematic diagram.

PACKING & ACCESSORIES

Ref. No.	Part No.	Description
	614 209 8141	INNER CARTON
	614 209 8189	PAD, LEFT
	614 209 8196	PAD, RIGHT
	614 209 8219	INSTRUCTION MANUAL
	614 176 2685	INNER POLYE COVER, 200X300
	614 191 3681	LABEL, CLASS 1
	614 213 6140	PAD, MAIN
	614 106 3409	STAND, FELT
	614 212 1450	SHEET
	614 176 5815	INNER POLYE COVER, 500X600
	614 176 0452	INNER POLYE COVER, 50X100X0.03T
	614 211 7033	OPTO CORD, TOCP174
	614 022 7598	LEAD CORD, 950MM
or	614 022 9554	LEAD CORD
or	614 023 0567	LEAD CORD, 950MM

CABINET & CHASSIS

Ref. No.	Part No.	Description
1	614 209 7724	ASSY, PANEL, FRONT
2	614 212 1009	ASSY, CABINET
3	614 209 7892	BUTTON, OPN/CLS
4	614 209 7908	BUTTON, PLAY/PAUSE
5	614 209 7915	BUTTON, STOP
6	614 209 7946	BUTTON, MEMO ETC
7	614 209 7953	BUTTON, FADE IN
8	614 210 2282	BUTTON, FADE OUT
9	614 209 7731	CABINET, BOTTOM
10	614 209 7779	PANEL, REAR
11	614 207 8860	KNOB, SLIDE, TIMER
12	614 209 7748	ESCUTCHEON
13	614 209 8011	REFLECTOR, LCD
14	[illegible]	FILTER, LCD
15	614 191 3698	LABEL, SAFETY MECH
16	614 189 4096	CAUTION LABEL
17	614 129 1901	FIXER, AC CORD
18	412 004 5705	SPECIAL SCREW
19	614 203 3418	SLIDE ASSY, TRAY
20	614 134 8858	GEAR
21	614 134 8865	GEAR
22	[illegible]	SPECIAL WASHER
23	614 212 5472	FILTER, LCD
24	614 207 3445	BUTTON, POWER SW
25	[illegible]	RUBBER CUSHION, FLOATING
26	614 210 3968	ASSY, FOOT, FRONT
27	614 214 3766	FIXER
28	614 210 3975	ASSY, FOOT, BACK
29	614 129 9136	LUG

FIXING PARTS

Ref. No.	Part No.	Description
Y1	411 021 6603	SCR S-TPG BIN 3X8
Y2	411 021 6405	SCR S-TPG BIN 3X8
Y3	411 020 9803	SCR S-TPG BRZ + FLG 3X6
Y4	411 021 3503	SCR S-TPG BIN 3X10
Y5	411 022 2802	SCR S-TPG FLT 3X10
Y6	411 020 9902	SCR S-TPG BRZ + FLG 3X8
Y7	411 021 5705	SCR S-TPG BIN 3X6

ELECTRICAL PARTS

Ref. No.	Part No.	Description
59	614 210 5952	POWER TRANS
60	614 023 3100	POWER CORD
60	614 203 0493	POWER CORD
	614 129 9136	LUG, HEAD PHONE
	614 214 3766	FIXER, LEAD FIX

MAIN P.C.BOARD ASSY

Ref. No.	Part No.	Description
51	614 212 1986	ASSY, PCB, MAIN
	614 121 5891	HEAT SINK
	614 211 6777	SOCKET, LINE OUT
	614 211 4056	OPTO CONNECTOR, DIGITAL OUT
	614 016 8259	PLUG, 6P, SYSTEM REMOTE
T501	614 212 1016	FILTER, LC
T502	614 212 1016	FILTER, LC
L401	614 028 4133	FILTER
L451	614 028 4218	FILTER
X301	[illegible]	CERAMIC RESONATOR, 4.19MHZ
X401	[illegible]	RESONATOR, 16.9344MHZ
or	[illegible]	RESONATOR, 16.9344MHZ
X419	614 194 2902	CERAMIC RESONATOR, 4.19MHZ
SVR101	614 204 1918	SEMI V.R, 20K OHM TRACKING BALANCE
SVR102	614 204 1956	SEMI V.R, 100K OHM FOCUS OFFSET
SVR201	614 204 1918	SEMI V.R, 20K OHM FOCUS GAIN
SVR202	614 204 1918	SEMI V.R, 20K OHM TRACKING GAIN
SVR341	614 204 1901	SEMI V.R, 10K OHM P. SEARCH
SVR501	614 204 1956	SEMI V.R, 100K OHM MSB ADJ
SVR502	614 204 1956	SEMI V.R, 100K OHM MSB ADJ.
SVR551	614 204 1901	SEMI V.R, 10K OHM CAL. TONE
CN1	614 017 2577	PLUG, 6P
CN2	614 017 2591	PLUG, 8P
or	614 035 5987	SOCKET, 7P
CN3	614 017 2119	PLUG, 4P
CN4	614 017 2133	PLUG, 6P
CN5	614 020 6562	SOCKET, 4P
CN7	614 035 6021	SOCKET, 11P
CN8	614 035 5987	SOCKET, 7P
CN10	614 035 5970	SOCKET, 6P
CN11	614 020 8849	SOCKET, 3P
PL1	[illegible]	LAMP
PL203	614 204 1871	SEMI V.R, 2K OHM PLL
TP14	614 016 3865	PLUG, 4P
TP810	614 017 2546	PLUG, 3P
RA301	614 004 4225	RESISTER, 10KX7
or	614 005 0820	RESISTOR ARRAY, 10K
IC101	409 108 5502	IC CXA1081M
IC201	409 185 1602	IC CXA1082BQ

PARTS LIST

Ref. No.	Part No.	Description
IC202	[illegible]	IC LA6510
IC203	[illegible]	IC LA6510
IC301	[illegible]	IC M50932-166FP
IC341	[illegible]	IC LB1403
IC342	[illegible]	IC LC74HC04
IC401	[illegible]	IC CXD1125Q, DSP
or	[illegible]	IC CXD1125Q-Z, DSP
IC402	[illegible]	IC LC3517AS-15, SRAM
IC403	[illegible]	IC PD0029, DIGITA FILTER
451	[illegible]	IC LC74HC00
501	[illegible]	IC PCM56P-L, D/A C
502	[illegible] 3809	IC PCM56P-L, D/A C
IC503	[illegible] 4503	IC LA6458DS
or	[illegible]	IC NJM4558DD
IC504	[illegible]	IC LA6458DS
or	[illegible]	IC NJM4558DD
IC505	[illegible]	IC NJM4556D
IC506	[illegible] 4503	IC LA6458DS
or	[illegible] 7705	IC NJM4558DD
IC507	[illegible]	IC LA6458DS
or	[illegible]	IC NJM4558DD
IC508	409 053 0607	IC TC9154AP
IC551	[illegible]	IC LC74HCU04
IC601	[illegible]	IC M5278D05
IC602	[illegible]	IC AN79M05
or	[illegible]	IC L79M05
or	[illegible]	IC NJM79M05A
Q101	[illegible]	TR 2SB598-E-NP
Q201	[illegible] 2600	TR 2SC3400
Q202	[illegible]	TR 2SA1345-AC
Q321	[illegible]	TR 2SC3400
Q322	405 003 7613	TR 2SA1345-AC
Q323	[illegible]	TR 2SC3400
Q324	405 003 7613	TR 2SA1345-AC
Q325	405 018 2600	TR 2SC3400
451	405 019 3705	TR 2SC536-G-AUD-SPA
32	405 019 3705	TR 2SC536-G-AUD-SPA
Q503	405 019 3705	TR 2SC536-G-AUD-SPA
Q504	405 021 0600	TR 2SD1012-G-SPA
Q505	405 021 0600	TR 2SD1012-G-SPA
Q506	405 021 0600	TR 2SD1012-G-SPA
Q507	405 021 0600	TR 2SD1012-G-SPA
Q508	405 004 4601	TR 2SA608-F-SPA
Q551	405 036 3108	TR 2SA1503
Q552	405 018 2600	TR 2SC3400
Q553	405 018 2600	TR 2SC3400
Q554	405 036 3108	TR 2SA1503
Q555	405 021 0600	TR 2SD1012-G-SPA
Q601	405 036 3108	TR 2SA1503
Q602	405 018 2600	TR 2SC3400
Q603	405 036 3108	TR 2SA1503
Q604	405 004 4601	TR 2SA608-F-SPA
Q681	405 024 4100	TR 2SD612-E
D301	407 007 9904	DIODE GMA01
D302	407 007 9904	DIODE GMA01
D303	407 007 9904	DIODE GMA01
D304	407 007 9904	DIODE GMA01
D305	407 007 9904	DIODE GMA01
D306	407 007 9904	DIODE GMA01
D307	407 007 9904	DIODE GMA01
D308	407 007 9904	DIODE GMA01
D309	407 007 9904	DIODE GMA01
D310	407 007 9904	DIODE GMA01
D311	407 007 9904	DIODE GMA01
D401	407 005 4505	DIODE DS442X
D601	408 007 9307	DIODE 1SR35-200A-HP
or	407 005 2006	DIODE DS135D-KB1
D602	408 007 9307	DIODE 1SR35-200A-HP
or	407 005 2006	DIODE DS135D-KB1
D603	408 007 9307	DIODE 1SR35-200A-HP
or	407 005 2006	DIODE DS135D-KB1
D604	408 007 9307	DIODE 1SR35-200A-HP
or	407 005 2006	DIODE DS135D-KB1

7.3. Typ wie 1x beidem

Ref. No.	Part No.	Description
D605	407 007 9904	DIODE GMA01
D606	407 007 9904	DIODE GMA01
D607	407 007 9904	DIODE GMA01
D608	407 053 6308	ZENER DIODE MTZ5.1B
D609	407 007 9904	DIODE GMA01
D610	407 007 9904	DIODE GMA01
D611	407 007 9904	DIODE GMA01
D681	407 053 2904	ZENER DIODE MTZ11B
C204	403 067 5603	MT-COMPO 0.1U J 50V
C507	403 058 9108	POLYESTER 0.018U J 50V
C511	403 056 7908	POLYESTER 1000P K 50V
C512	403 056 7908	POLYESTER 1000P K 50V
C571	403 056 7908	POLYESTER 1000P K 50V
C572	403 056 7908	POLYESTER 1000P K 50V
C610	403 085 4008	NP-ELECT 10U M 16V
L301	614 028 6748	FILTER, 10U, 160MA
L302	614 028 4133	FILTER, 10U, CHOKE
L402	614 028 6748	FILTER, 10U, 160MA
	614 017 6964	TERMINAL BOARD, EFM, ASY, PLCK
Q101	405 007 [illegible]	TR, 2SB598-E
D307	407 007 9904	DIODE, GMA01
D308	407 007 9904	DIODE, GMA01
D309	407 007 9904	DIODE, GMA01
D310	407 007 9904	DIODE, GMA01
D311	407 007 9904	DIODE, GMA01
D312	407 007 9904	DIODE, GMA01
D551	407 007 9904	DIODE, GMA01
D552	407 007 9904	DIODE, GMA01
D612	407 007 9904	DIODE, GMA01

P.T PRI P.C.BOARD ASSY

Ref. No.	Part No.	Description
52	614 212 1993	ASSY, PCB, P.T PRI
	614 123 2089	TERMINAL

P.T SEC P.C.BOARD ASSY

Ref. No.	Part No.	Description
53	614 212 2006	ASSY, PCB, P.T SEC
	614 051 9785	LUG
CN6	614 020 6555	SOCKET, 3P

POWER SW P.C.BOARD ASSY

Ref. No.	Part No.	Description
54	614 212 2013	ASSY, PCB, POWER SW
S601	614 019 0656	PUSH SWITCH
CN5	614 020 6562	SOCKET, 4P
CN6	614 020 6555	SOCKET, 3P

HEADPHONE P.C.BOARD ASSY

Ref. No.	Part No.	Description
55	614 212 2020	ASSY, PCB, HEADPHONE
	614 212 6905	SOCKET, HEADPHONE
CN11	614 020 6555	SOCKET, 3P
	614 051 9808	LUG

LCD P.C.BOARD ASSY

Ref. No.	Part No.	Description
56	[illegible] 212 2037	ASSY, PCB, LCD
	[illegible]	LCD
IC302	409 088 6209	IC LC7582
CN10	614 035 4959	SOCKET
D381	[illegible]	DIODE, GMA01
	614 051 9808	LUG, FSZ

PARTS LIST

SW P.C.BOARD ASSY

Ref. No.	Part No.	Description
57	614 212 2044 •	ASSY, PCB, SW
S701	614 018 9056 •	SWITCH, PLAY/PAUSE
or	614 019 1592	SWITCH, PLAY/PAUSE
S702	614 018 9056	SWITCH, MEMORY
or	614 019 1592	SWITCH, MEMORY
S703	614 018 9056	SWITCH, STOP
or	614 019 1592	SWITCH, STOP
S704	614 018 9056	SWITCH, FF
S704	614 019 1592	SWITCH, FF
S705	614 018 9056	SWITCH, REWIND
or	614 019 1592	SWITCH, REWIND
S706	614 018 9056	SWITCH, REPEAT
or	614 019 1592	SWITCH, REPEAT
S707	614 018 9056	SWITCH, OPN/CLS
or	614 019 1592	SWITCH, OPN/CLS
S708	614 018 9056	SWITCH, CLEAR
or	614 019 1592	SWITCH, CLEAR
S709	614 018 9056	SWITCH, DISPLAY
or	614 019 1592	SWITCH, DISPLAY
S710	614 018 9056	SWITCH, B ACC
or	614 019 1592	SWITCH, B ACC
S711	614 018 9056	SWITCH, F ACC
or	614 019 1592	SWITCH, F ACC
S712	614 018 9056	SWITCH, FADE OUT
or	614 019 1592	SWITCH, FADE OUT
S713	614 018 9056	SWITCH, FADE IN
or	614 019 1592	SWITCH, FADE IN
S714	614 018 9056	SWITCH, CAL. TONE
or	614 019 1592	SWITCH, CAL. TONE
S715	614 018 9056	SWITCH, AUTO LEVEL
or	614 019 1592	SWITCH, AUTO LEVEL

Ref. No.	Part No.	Description
S716	614 018 9056	SWITCH, AUTO SPACE
or	614 019 1592	SWITCH, AUTO SPACE
S717	614 018 9056	SWITCH, EDIT
or	614 019 1592	SWITCH, EDIT
CN7	614 035 5000	SOCKET
CN8	614 035 4966	SOCKET, 7P
CN9	614 035 4928	SOCKET, 3P
D701	407 114 8807	LED SLP-982A-51
	614 051 9785	LUG, FSZ
	614 051 9808	LUG, FSZ

TIMER SW P.C.BOARD ASSY

Ref. No.	Part No.	Description
58	614 212 2051 •	ASSY, PCB, TIMER SW
S718	614 209 3276	SWITCH, SLIDE
CN9	614 035 4928	SOCKET, 3P
	614 051 9785	LUG, FSZ

Front bracket assy

MECHANISM PARTS LIST (PM DADS85)

MECHANISM

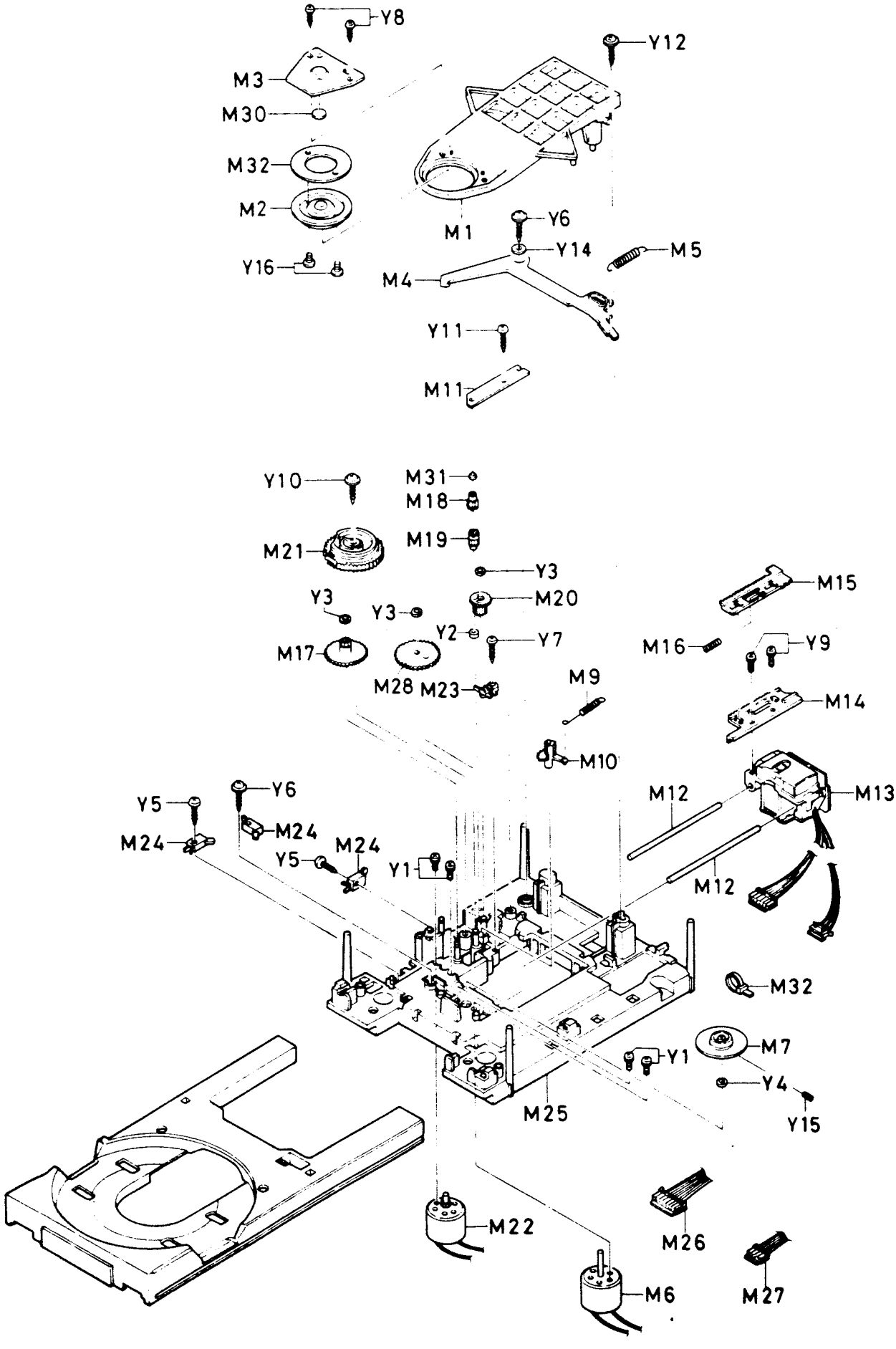
Ref. No	Part No.	Description
M1	614 212 1702 •	LEVER
M2	614 205 7421 •	PULLEY
M3	614 205 1481 •	BRACKET
M4	614 140 1324	LEVER
M5	614 151 7063	SPRING COIL
M6	614 045 2105	COMMUTATE MOTOR
M7	614 073 6939 •	TURN TABLE
M9	614 151 7056	SPRING COIL
M10	614 140 1317	LEVER
M11	614 195 7814	SPRING PLATE
M12	614 145 9622	SHAFT
M13	614 199 0712	PICK UP
M14	614 134 8902	GEAR
M15	614 134 8919	GEAR
M16	614 151 7223	SPRING COIL
M17	614 134 8889	GEAR
M18	614 197 7645	GEAR
M19	614 134 8834	GEAR
M20	614 134 8827	GEAR
M21	614 134 8841	GEAR
M22	614 195 8101	COMMUTATE MOTOR ASSY
M23	614 024 1600	SWITCH
M24	614 018 9223	SWITCH
M25	614 212 1689 •	CHASSIS ASSY
M26	614 210 0875 •	SOCKET
M27	614 036 8604 •	SOCKET
M28	614 134 8872	GEAR

Ref. No.	Part No.	Description
M30	614 205 1511	SHEET
M31	614 197 7539	SPACER
	614 129 4971	FIXER
M32	614 204 9280 •	PULLEY

FIXING PARTS (MECHANISM)

Ref. No	Part No	Description
Y1	411 044 7205	SCR PAN - SW 2X4
Y2	412 012 7005	SPECIAL WASHER
Y3	412 013 2609	SPECIAL WASHER
Y4	412 032 0208	SPECIAL WASHER
Y5	411 104 4205	SCR TPG PAN 1.7X8
Y6	411 033 3902	SCR S-TPG BRZ - FLG 3X8
Y7	411 033 3403	SCR S-TPG PAN 2X8
Y8	411 021 2704	SCR S-TPG BIN 2.6X4
Y9	411 044 7502	SCR PAN - SW 2X5
Y10	411 033 5705	SCR S-TPG BIN 3X6
Y11	411 033 3503	SCR S-TPG BIN 3X10
Y12	412 020 8905	SPECIAL SCREW
Y14	411 092 2900	WASHER, Z 3X10X1
Y15	411 063 1109	SCR, SET HEX-SCT 2X6
Y16	411 033 2907	SCR, S-TPG 2.6X4

MECHANISM EXPLODED VIEW



IC BLOCK DIAGRAM

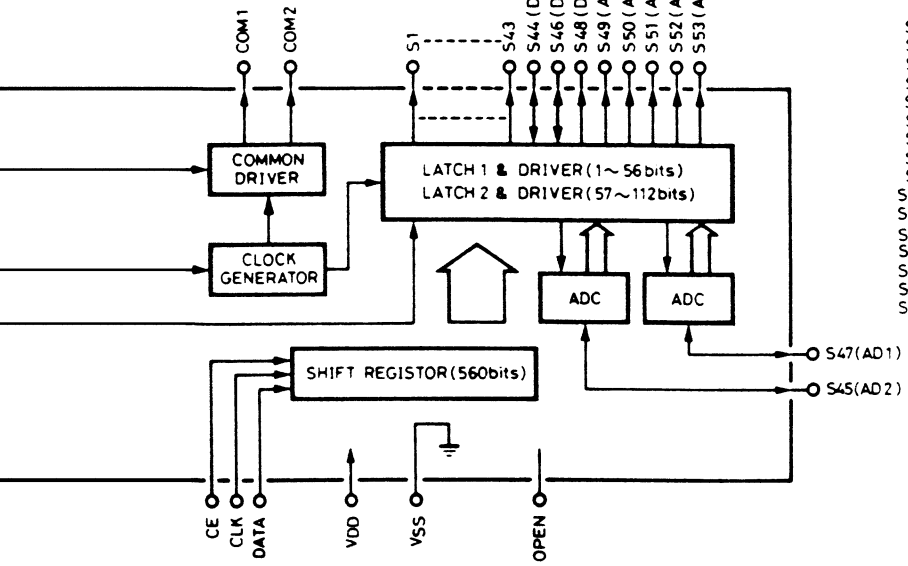
Pin Function of IC301 (M50932-166FP)

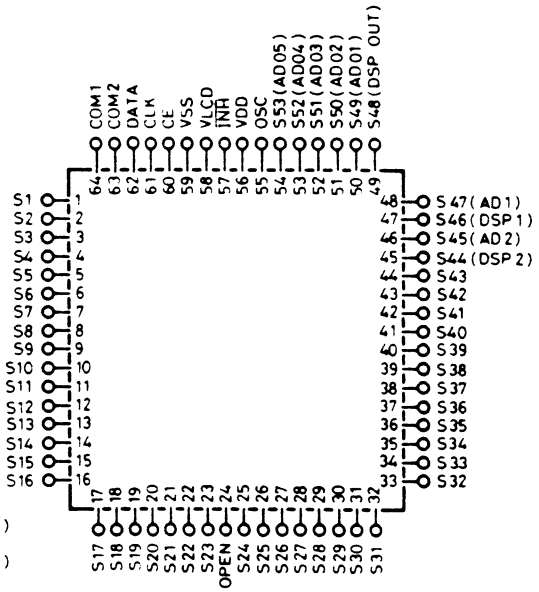
PIN NO	PIN NAME	I/O	FUNCTION NAME	DESCRIPTION
1	SEG8	O	SEG8	DONT CARE
2	SEG7	O	SEG7	DONT CARE
3	SEG6	O	SEG6	DONT CARE
4	SEG5	O	SEG5	DONT CARE
5	SEG4	O	SEG4	DONT CARE
6	SEG3	O	SEG3	DONT CARE
7	SEG2	O	SEG2	DONT CARE
8	SEG1	O	SEG1	DONT CARE
9	SEG0	O	SEG0	DONT CARE
10	COM3	O	COM3	DONT CARE
11	COM2	O	COM2	DONT CARE
12	COM1	O	COM1	DONT CARE
13	COM0	O	COM0	DONT CARE
14	VL1	P8	VL1	DRIVE FOR LCD
15	VL2	P8	VL2	DRIVE FOR LCD
16	VL3	P8	VL3	DRIVE FOR LCD
17	VCC	P8	VCC	+5 VOLT
18	CNTR		NC	DONT CARE
19	P37	O	CALTON	CALIBRATION TONE CIRCUIT CONTROL SIGNAL
20	P36	O	SQCK	CXD1125(25)
21	P35	O	NC	DONT CARE CLOCK SIGNAL FOR SUBQ DATA INPUT
22	P34	I	SUBQ	CXD1125(23) SUBQ DATA INPUT
23	P33	I	GFS	CXD1125(28) GFS SIGNAL INPUT
24	INT2	I	RDATA	RDHOCCN SIGNAL INPUT
25	P31	I	SENS	SENS SIGNAL INPUT
26	P30.	O	MUTO	MUTE CONTROL SIGNAL
27	INT1	I	SCOR	SCOR SIGNAL INPUT
28	CNVSS	I	CNVSS	GND
29	RESET	I	RESET	POWER ON RESET
30	XCIN	I	XCIN	INPUT TO CRYSTAL OSCILLATOR CIRCUIT
31	XCOUT	O	XCOUT	OUTPUT FROM CRYSTAL OSCILLATOR CIRCUIT
32	VSS	P8	VSS	POWER SOURCE
33	P27	O	DATA	COMMAND SIGNAL CXD1062(23) CXD1125(15)
34	P26	O	XLT	COMMAND OUT SIGNAL CXD1062(24) CXD1125(14)
35	P25	O	CLK	COMMAND OUT SIGNAL CXD1062(25) CXD1125(13)
36	P24	O	LDON	LASER ON/OFF CONTROL
37	P23	O	EMP	CONTROL SIGNAL FOR EMPHASIS
38	P22	O	VDATA	CONTROL SIGNAL FOR VOLUME IC (TC9154 DATA)
39	P21	O	VCKK	CONTROL SIGNAL FOR VOLUME IC (TC9154 CK)
40	P20	O	VST	CONTROL SIGNAL FOR VOLUME IC (TC9154 ST)
41	P17	O	REC	CONTROL SIGNAL FOR AUTO FUNCTION
42	P16	O	LOW-IS	CONTROL SIGNAL FOR SLED/LOADING MOTOR VOLTAGE
43	P15	O	LEVPLY	CONTROL SIGNAL FOR PEAK LEVEL SEASRCH CIRCUIT
44	P14	I	LEVEL5	LEVEL SIGNAL INPUT (LB1403 5 PIN)
45	P13	I	LEVEL4	LEVEL SIGNAL INPUT (LB1403 4 PIN)

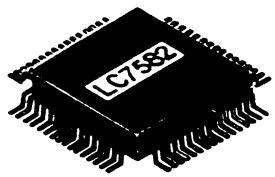
PIN NO	PIN NAME	I/O	FUNCTION NAME	DESCRIPTION
46	P12	I	LEVEL3	LEVEL SIGNAL (LB1403 3 PIN)
47	P11	I	LEVEL2	LEVEL SIGNAL (LB1403 2 PIN)
48	P10	I	LEVEL1	LEVEL SIGNAL (LB1403 1 PIN)
49	P07	O	INH	CONTROL SIGNAL FOR LCD DISPLAY DRIVER (LC7582 INH)
50	P06	O	LCE	CONTROL SIGNAL FOR LCD DISPLAY DRIVER (LC7582 CK)
51	P05	O	LCLK	CONTROL SIGNAL FOR LCD DISPLAY DRIVER (LC7582 CLK)
52	P04	O	LDATA	CONTROL SIGNAL FOR LCD DISPLAY DRIVER (LC7582 DATA)
53	P03	O	SCAN3	SCAN OUTPUT (KEY SW)
54	P02	O	SCAN2	SCAN OUTPUT
55	P01	O	SCAN1	SCAN OUTPUT
56	P00	O	SCAN0	SCAN OUTPUT
57	P47	I	KEY5	KEY INPUT (KEY SW)
58	P46	I	KEY5	KEY INPUT
59	P45	I	KEY4	KEY INPUT
60	P44	I	KEY3	KEY INPUT
61	P43	I	KEY2	KEY INPUT
62	P42	I	KEY1	KEY INPUT
63	P41	I	KEY0	KEY INPUT
64	P40	I	FOK	FOK FOK SIGNAL INPUT CXD1081(28)
65	SEG23	O	SEG23	DONT CARE
66	SEG22	O	SEG22	DONT CARE
67	SEG21	O	SEG21	DONT CARE
68	SEG20	O	SEG20	DONT CARE
69	SEG19	O	SEG19	DONT CARE
70	SEG18	O	SEG18	DONT CARE
71	SEG17	O	SEG17	DONT CARE
72	SEG16	O	SEG16	DONT CARE
73	VSS	P8	VSS	0 VOLT
74	SEG15	O	SEG15	DONT CARE
75	SEG14	O	SEG14	DONT CARE
76	SEG13	O	SEG13	DONT CARE
77	SEG12	O	SEG12	DONT CARE
78	SEG11	O	SEG11	DONT CARE
79	SEG10	O	SEG10	DONT CARE
80	SEG9	O	SEG9	DONT CARE

DIAGRAM

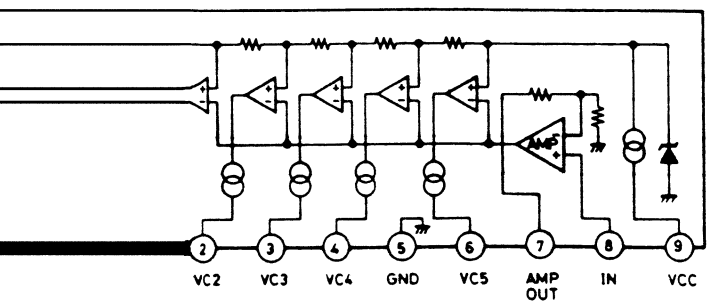
82)LCD DRIVER)

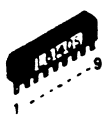




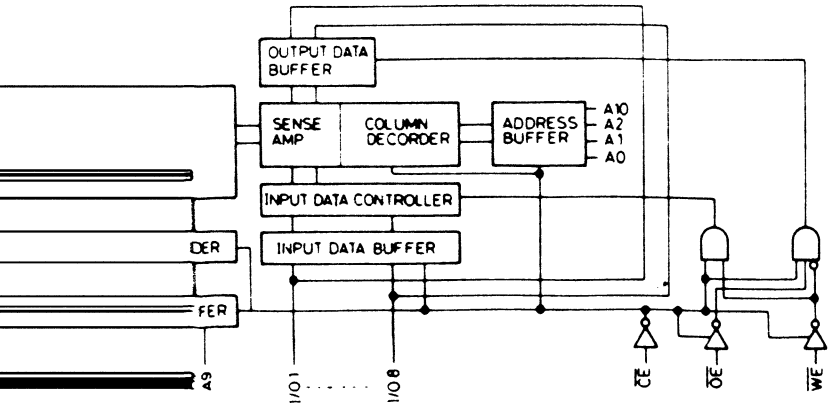


103 (Level Meter)

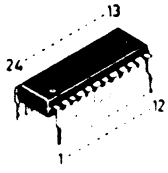




IC402 LC3517AS-15 (STATIC RAM)

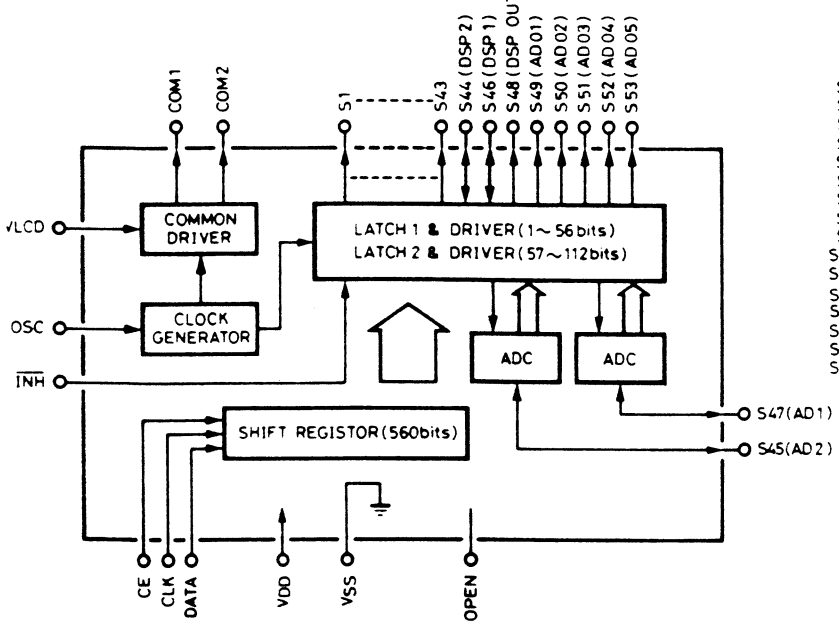


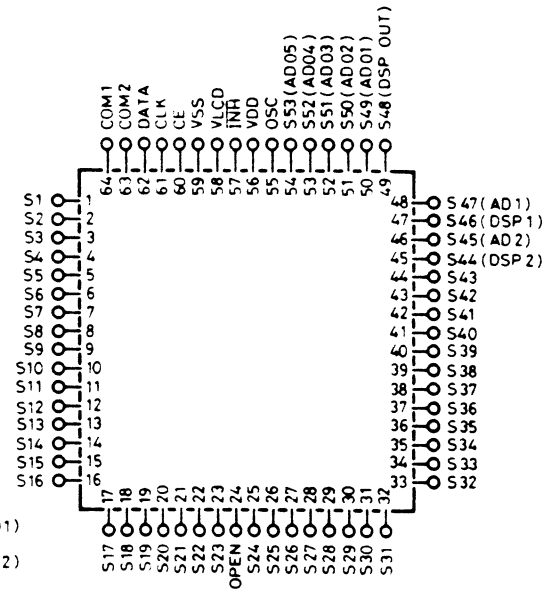
TERMINAL NAME	TERMINAL DESCRIPTION
A0 - A10	ADDRESS INPUT
I/O1 I/O8	DATA INPUT/OUTPUT
CE	CHIP ENABLE INPUT
WE	WRITE ENABLE INPUT
OE	OUTPUT ENABLE INPUT
Vcc	+5V POWER SOURCE
GND	GROUND

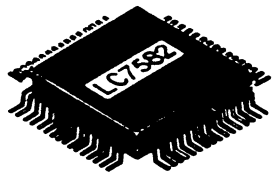


IC BLOCK DIAGRAM

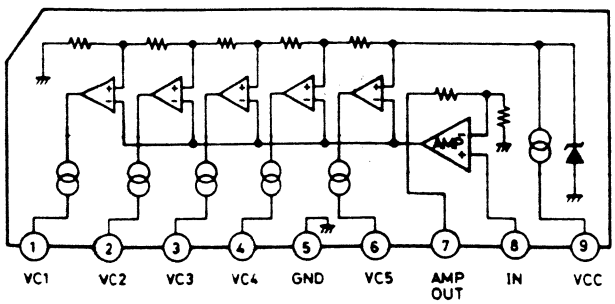
IC302 LC7582)LCD DRIVER)

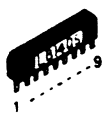




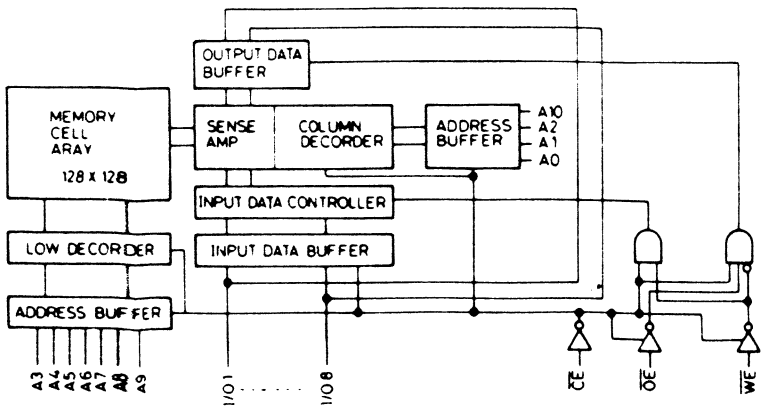


41 LB1403 (Level Meter)

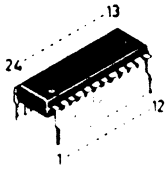




IC402 LC3517AS-15 (STATIC RAM)



TERMINAL NAME	TERMINAL DESCRIPTION
A0 - A10	ADDRESS INPUT
I/O1 I/O8	DATA INPUT/OUTPUT
CE	CHIP ENABLE INPUT
WE	WRITE ENABLE INPUT
OE	OUTPUT ENABLE INPUT
Vcc	+5V POWER SOURCE
GND	GROUND



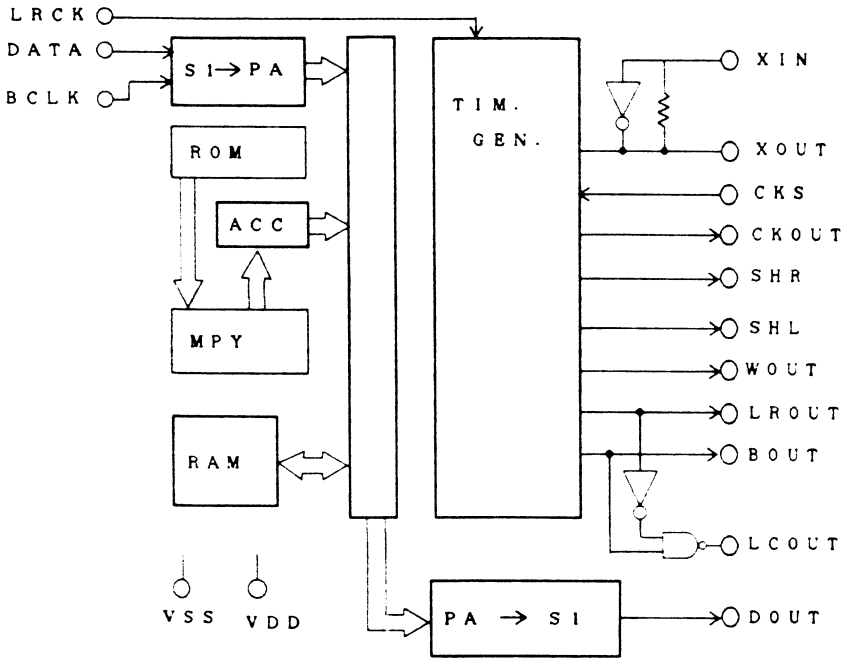
IC BLOCK DIAGRAM

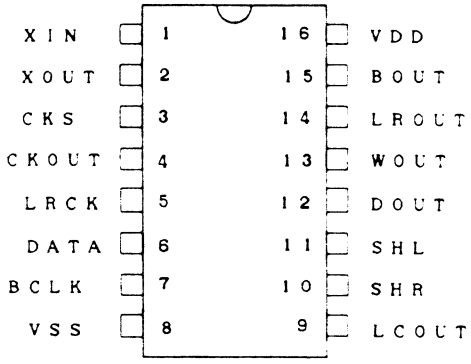
Pins Function of IC401 (CXD1125Q)

No.	Symbol	I/O	Description
1	FSW	O	Pin 1 output is switched constant when the output filter of the spindle motor is energized.
2	MON	O	ON/OFF control for spindle motor.
3	MDP	O	Spindle motor drive. Provides rough control during CLV-S mode and phase control during CLV-P mode.
4	MDS	O	Spindle motor drive. Controls speed during CLV-P mode.
5	EFM	I	EFM signal from RF amplifier.
6	ASY	O	Controls slice level of the EFM signal.
7	LOCK	O	The output of pin 7 reflects the status of the GFS signal which is sampled at WFCK/16. When the GFS signal is "H", the output of pin 7 is also "H", but, when the signal has remained "L" for at least 8 samples, the output of pin 7 is "L".
8	VCOO	O	When VCO locks to EFM signal, the frequency becomes 8.6432 MHz.
9	VCOI	I	VCO input.
10	TEST	I	(0V)
11	PDO	O	The output of Pin 11 provides phase comparison of EFM signal and VCO/2.
12	Vss	–	GND (0V)
13	CLK	I	Pin 13 provides serial transmission clock from the CPU. Data is latched on the leading edge of the clock.
14	XLT	I	Pin 14 provides latch input from the CPU. 8-bit shift register data (serial data received from the CPU) is latched in each of the registers.
15	DATA	I	Serial data from the CPU.
16	XRST	I	System reset ("L")
17	CNIN	I	Tracking pulse input.
18	SENS	O	Output reflecting internal condition as designated by address.
19	MUTG	I	Muting input. MUTG is "L" when ATTM of internal register A is "L" (normal condition). MUTG is "H" when muting condition is set.
20	CRCF	O	Output the results CRC check of subcode Q.
21	EXCK	I	Clock input for subcode serial output.
22	SBSO	O	Serial output of subcode.
23	SUBQ	O	Output of subcode Q.
24	SCOR	O	Output of subcode sync S0+S1.
25	SQCK	I/O	Clock for reading subcode Q.
26	SQEX	I	Input for selecting SQCK. (See page 28.)
27	DOTX	O	Digital outptu (WFCK is output when DO is off or for the CXD1130Q.)
28	GFS	O	Indicates the frame sync lock status.
29	DB08	I/O	Data pin for external RAM. DATA8 (MSB)
30	DB07	I/O	Data pin for external RAM. DATA7
31	DB06	I/O	Data pin for external RAM. DATA6
32	DB05	I/O	Data pin for external RAM. DATA5
33	VDD	–	Power supply (+5V)
34	DB04	I/O	Data pin for external RAM. DATA4
35	DB03	I/O	Data pin for external RAM. DATA3
36	DB02	I/O	Data pin for external RAM. DATA2
37	DB01	I/O	Data pin for external RAM. DATA1 (LSB)
38	RA01	O	Output address of external RAM. ADDR01 (LSB)
39	RA02	O	Output address of external RAM. ADDR02
40	RA03	O	Output address of external RAM. ADDR03
41	RA04	O	Output address of external RAM. ADDR04
42	RA05	O	Output address of external RAM. ADDR05
43	RA06	O	Output address of external RAM. ADDR06
44	RA07	O	Output address of external RAM. ADDR07
45	RA08	O	Output address of external RAM. ADDR08
46	RA09	O	Output address of external RAM. ADDR09
47	RA10	O	Output address of external RAM. ADDR10
48	RA11	O	Output address of external RAM. ADDR11 (MSB)
49	RAWE	O	Writes enable output signal to external RAM (Active when "L".)
50	RACS	O	Chip select output signal to external RAM. (Active when "L".)
51	C4M	O	Divider output for crystal. f = 4.2336MHz
52	Vss	–	GND (0V)
53	XTAI	I	Input to crystal oscillator circuit. Depending on the mode the frequency is either f = 8.4672 or 16.9344MHz.
54	XTAO	O	Output from crystal oscillator circuit. Depending on the mode the frequency is either f = 8.4672 or 16.9344MHz.
55	MD1	I	Mode selection input 1.
56	MD2	I	Mode selection input 2.
57	MD3	I	Mode selection input 3.
58	SLOB	I	Code switch input for audio data output. 2's complement output when "L", offset binary output when "H".
59	PSSL	I	Code switch input for audio data output. Serial output when "L", parallel output when "H".
60	APTR	O	Control output for aperture compensation. "H" during R-ch.
61	APTL	O	Control output for aperture compensation. "H" during L-ch.
62	DA01	O	DA01 (LSB of parallel audio data) is output when PSSL = "H". C1F1 is output when PSSL = "L".
63	DA02	O	DA02 is output when PSSL = "H". C1F2 is output when PSSL = "L".
64	DA03	O	DA03 is output when PSSL = "H". C2F1 is output when PSSL = "L".
65	DA04	O	DA04 is output when PSSL = "H". C2F2 is output is when PSSL = "L".
66	DA05	O	DA05 is output when PSSL = "H". C2FL is output when PSSL = "L".
67	DA06	O	DA06 is output when PSSL = "H". C2PO is output when PSSL = "L".
68	DA07	O	DA07 is output when PSSL = "H". RFCK is output when PSSL = "L".
69	DA08	O	DA08 is output when PSSL = "H". WFCK is output when PSSL = "L".
70	DA09	O	DA09 is output when PSSL = "H". PLCK is output when PSSL = "L".
71	DA10	O	DA10 is output when PSSL = "H". UGFS is output when PSSL = "L".
72	DA11	O	DA11 is output when PSSL = "H". GTOP is output when PSSL = "L".
73	VDD	–	Power supply (+5V)
74	DA12	O	DA12 is output when PSSL = "H". RAOV is output when PSSL = "L".
75	DA13	O	DA13 is output when PSSL = "H". C4LR is output when PSSL = "L".
76	DA14	O	DA14 is output when PSSL = "H". C21O is output when PSSL = "L".
77	DA15	O	DA15 is output when PSSL = "H". C21O is output when PSSL = "L".
78	DA16	O	DA16 (MSB of parallel audio data) is output when PSSL = "H". DATA is output when PSSL = "L".
79	WDCK	O	Strobe signal output. Output is 176.4kHz when DF is on. Output is 88.2kHz when DF is off or when the chip being used is CXD1125Q.
80	LRCK	O	Strobe signal output. Output is 88.2kHz when DF is on. Output is 44.1kHz when DF is off or when the chip being used is CXD1125Q.

BLOCK DIAGRAM

IC403 PD0029 (Digital filter)

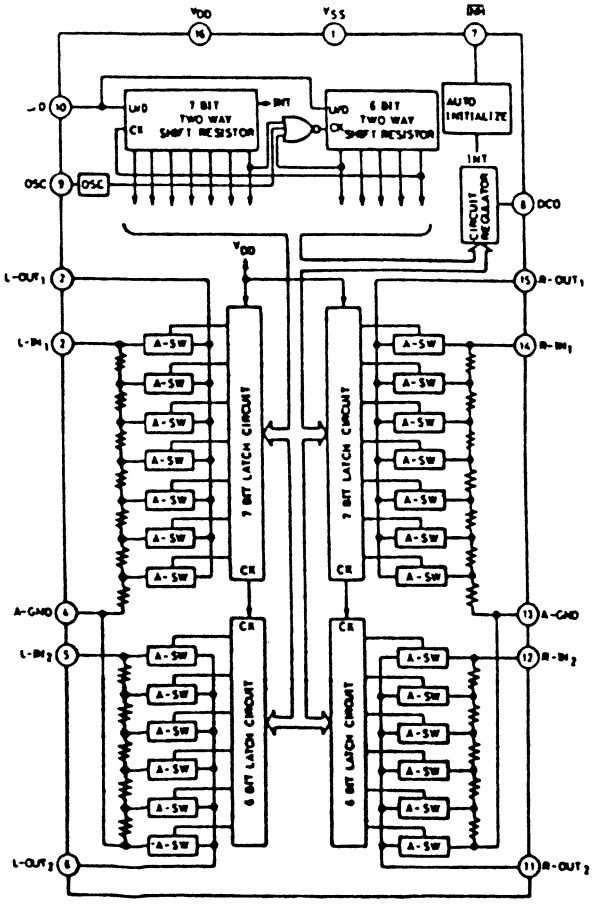




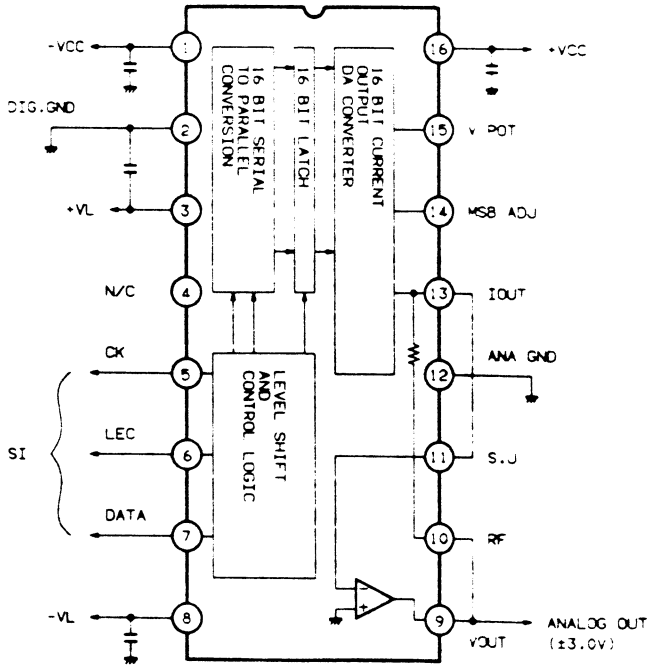
Pin Functions of IC501, 502 (PCM56P)

Pin No	Pin Name	Description	Pin No	Pin Name	Description
1	-VCC	Analogue Gnd	16	+VCC	Analogue positive power supply
2	DIG GND	Digital Gnd			
3	+VL	Logic positive power supply	15	VPOT	Potential meter terminal
4	NC	Non-connection	14	MSB ADJ	MSB Adjustment
5	CK	Clock input	13	IOUT	Current output
6	LEC	Latch enable control input	12	ANA GND	Analogue Gnd
			11	S.J	Summing junction
7	DATA	Data input	10	RF	Feed back resistor
8	-VL	Logic negative power supply	9	VOUT	Voltage output

IC508 TC9154 AP (Electronic Volume)

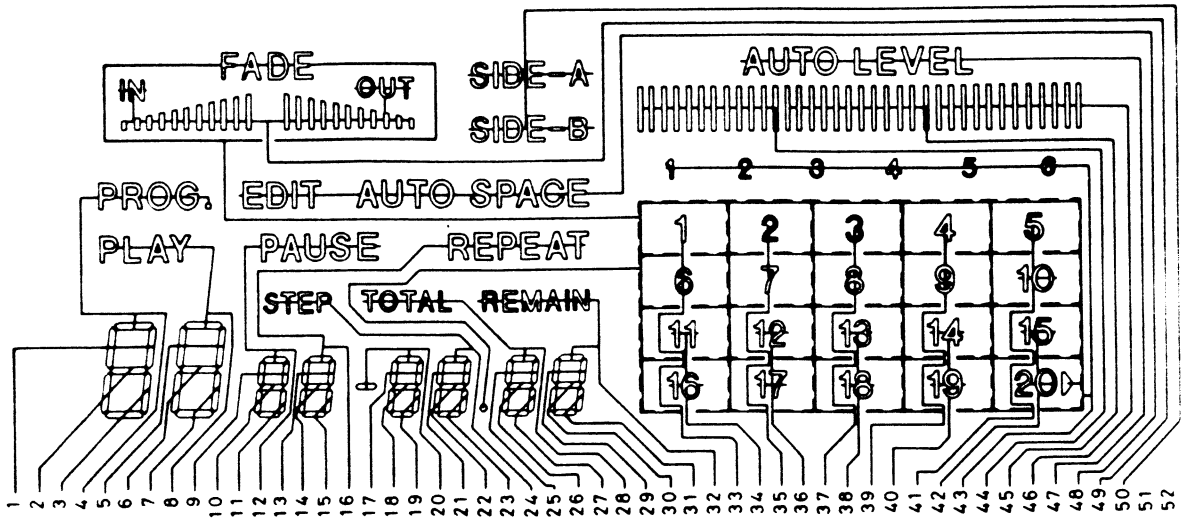


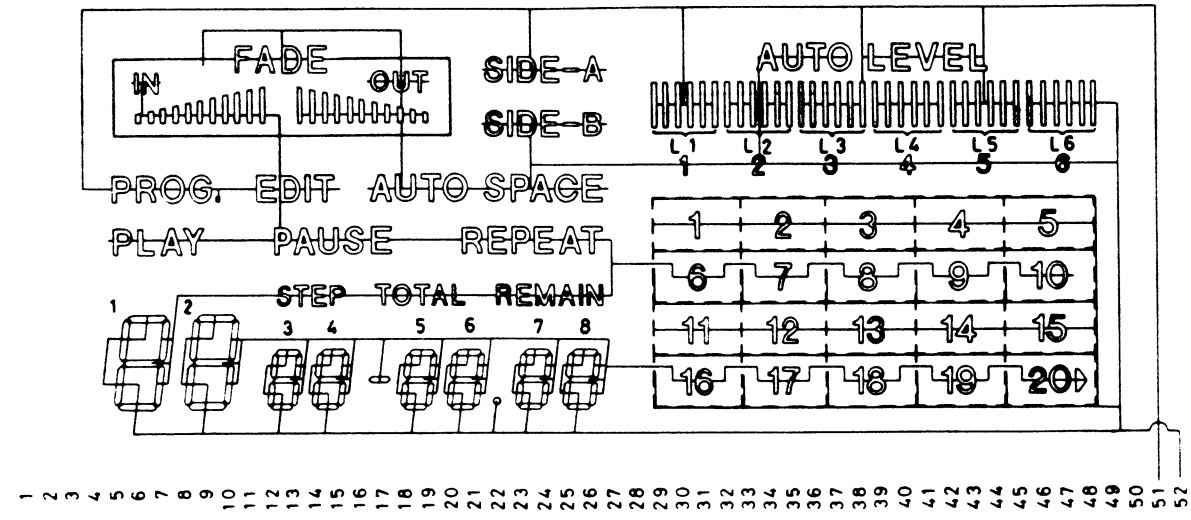
IC501, 502 PCM56P



IC BLOCK DIAGRAM

LCD





NO	1	2	3	4	5	6	7	8	9	10	11	12	13
COM1	1b	1g	1c	PROG.	2b	2g	2c	PLAY	3b	3g	3c	PAUSE	4b
COM2	1f	1e	1d	1a	2f	2e	2d	2a	3f	3e	3d	3a	4f

NO	14	15	16	17	18	19	20	21	22	23	24	25	26
COM1	4g	4c	REPEAT	5b	5g	5c	⬭	6b	6g	6c	STEP	7b	7g
COM2	4e	4d	4a	5f	5e	5d	5a	6f	6e	6d	6a	7f	7e

NO	27	28	29	30	31	32	33	34	35	36	37	38	39
COM1	7c	TOTAL	8b	8g	8c	REMAIN	6	16	7	17	8	18	9
COM2	7d	7a	8f	8e	8d	8a	1	11	2	12	3	13	4

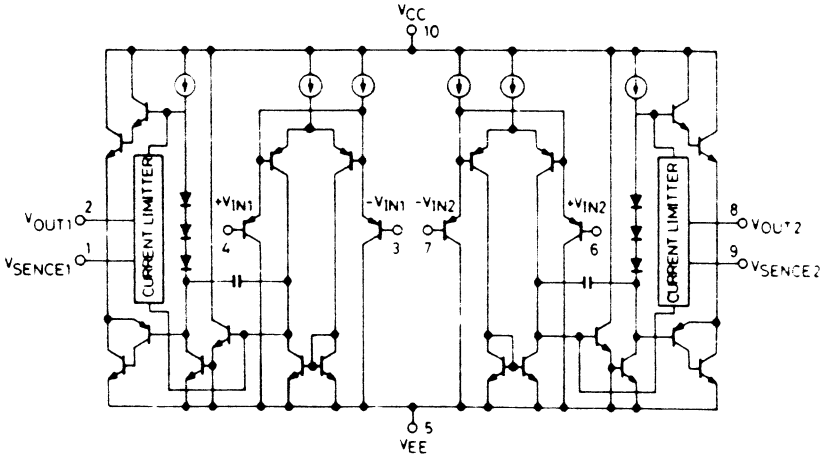
NO	40	41	42	43	44	45	46	47	48	49	50	51	52
COM1	19	10	20	▷	L1	L3	L5	LEVEL	EDIT	IN	SIDE-A	COM	—
COM2	14	5	15	1)	L2	L4	L6	AUTO	AUTO SPACE	OUT	SIDE-B	—	COM

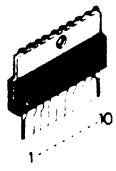
1) FADE

COL

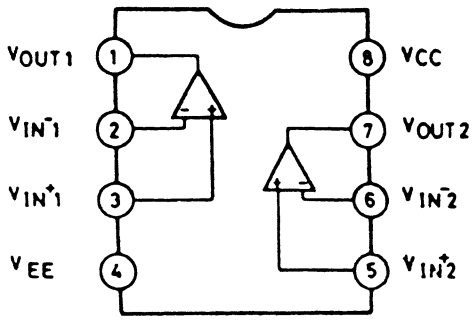
1.2.3.4.5.6(上)

IC202/IC203 LA6510
(Dual Power Operational Amplifier)

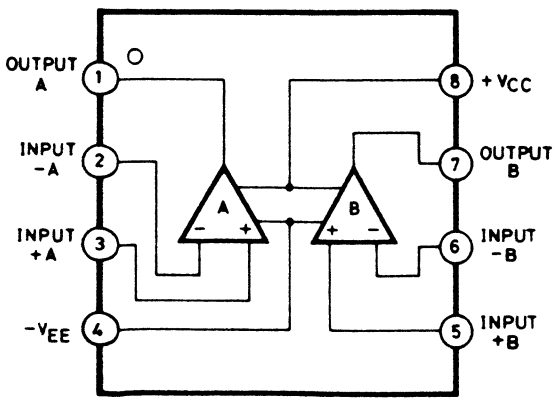


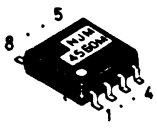


IC503, 504 LA6458DS
(Dval Operational Amp.)

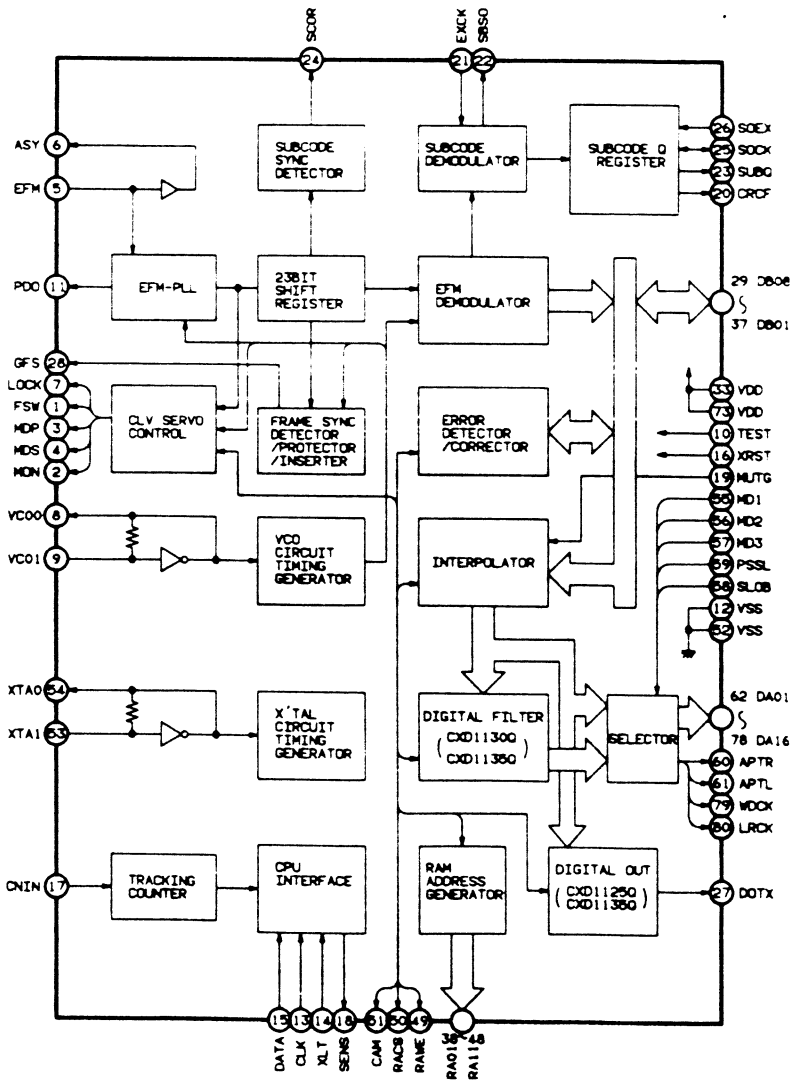


IC508 NJM4556 (Dual Op-Amp.)





IC401 CXD1125Q Digital Signal Processor



VOLTAGE IC & TRANSISTORS

IC401(CXD1125)

MEASURING PIN NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
STOP VOLTAGE	0	0	0	0	2.4	2.4	0	2.4	2.4	0	3.0	0	5.0	5.0	0	5.0
PLAY VOLTAGE	0	4.9	2.5	2.7	2.4	2.4	4.9	2.4	5.0	0	5.0	0	4.9	5.0	FLU	5.0
MEASURING PIN NO	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
STOP VOLTAGE	4.6	0	4.6	0	0	3.0	0	0	5.0	4.9	2.3	0	2.0	2.0	2.1	2.2
PLAY VOLTAGE	FLU	3.0	0	4.9	0	0	FLU	FLU	5.0	4.9	2.3	4.9	1.8	1.8	1.8	1.8
MEASURING PIN NO	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
STOP VOLTAGE	4.9	2.3	1.5	3.5	2.8	2.4	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	FLU
PLAY VOLTAGE	4.9	1.8	1.8	1.8	1.8	2.4	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	FLU
MEASURING PIN NO	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
STOP VOLTAGE	4.3	2.3	2.4	0	2.4	1.9	0	0	4.9	0	0	NC	NC	NC	NC	NC
PLAY VOLTAGE	4.6	2.3	2.4	0	2.4	1.9	0	0	4.9	0	0					
MEASURING PIN NO	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
STOP VOLTAGE	NC	NC	NC	NC	NC	2.4	NC	4.9	4.9	NC	NC	2.5	NC	0	2.5	2.4
PLAY VOLTAGE						2.4		0	4.9			2.4		2.5	2.5	2.5

IC402(LC3517AS)

MEASURING PIN NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
STOP VOLTAGE	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	3.0	3.4	1.5	0	2.3	2.3	2.0	2.0
MEASURING PIN NO	17	18	19	20	21	22	23	24								
STOP VOLTAGE	2.0	2.3	FLU	2.3	4.2	2.5	2.5	4.9								

IC403(PD0029)

MEASURING PIN NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
STOP VOLTAGE	2.3	2.3	4.8	2.3	2.5	0	2.5	0	1	1	1	0	2.4	2.4	2.5	5.0

IC451(74HC00)

MEASURING PIN NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14
STOP VOLTAGE	4.9	4.9	0	2.5	2.5	2.5	0	2.5	2.5	2.5	2.5	2.5	5.0	4.9

IC101(CXA1081M)

MEASURING PIN NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
STOP VOLTAGE	0	0	0	4.5	4.5	-5.0	0	0	0.4	0	0	0	0	0	-1	1.7
PLAY VOLTAGE	0	0	0	3.1	3.3	-4.6	-	-	0	-	-	FLU	FLU		-2.3	-2.0
MEASURING PIN NO	17	18	19	20	21	22	23	24	25	26	27	28	29	30		
STOP VOLTAGE	-5.0	0	0	0	-4.6	4.6	-2.3	0	0	2.4	2.4	0	5.0	4.9		
PLAY VOLTAGE	-5.0	FLU	FLU	4.9	-4.6	FLU	FLU	FLU	0	2.4	2.4	4.9	0	4.9		

IC201(CXA1082BQ)

MEASURING PIN NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
STOP VOLTAGE	0	NC	NC	0	0	0	0	NC	NC	5.0	0	0	0	0	0	-5.0
PLAY VOLTAGE	0			FLU	FLU	0	0			5.0	FLU	0	FLU	FLU	FLU	-5.0
MEASURING PIN NO	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
STOP VOLTAGE	-4.0	0	-5.0	0	NC	5.0	0	5.0	5.0	0	3.0	3.0	2.3	2.3	3.5	2.4
PLAY VOLTAGE	-4.0	FLU	-5.0	FLU		5.0	FLU	5.0	4.5	0	2.9	2.5	2.3	2.3	3.5	2.4
MEASURING PIN NO	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
STOP VOLTAGE	0	0	0	0	4.9	0	0	2.4	0	4.5	-5.0	NC	0	0	NC	0
PLAY VOLTAGE	4.9	2.6	4.9	2.6	4.9	0	0	2.4	4.9	FLU	-5.0		0	0		0

VOLTAGE IC & TRANSISTORS

IC301(M50932)

MEASURING PIN NO	1 - 13	14	15	16	17	18	19	20	21	22	23	24	25	26
STOP VOLTAGE	NC	5.0	5.0	5.0	5.0	0	0	5.0	NC	0	0	5.0	0	4.6
PLAY VOLTAGE		5.0	5.0	5.0	5.0	0	5.0	5.0		0	4.9	5.0	3.0	0

MEASURING PIN NO	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42
STOP VOLTAGE	-	5.0	0	-	-	-	0	5.0	5.0	5.0	0	0	-	-	5.0	5.0
PLAY VOLTAGE	0	0	5.0	-	-	-	FLU	5.0	4.9	0	4.8	0	0	0	5.0	5.0

MEASURING PIN NO	43	44	45	46	47	48	49	50 - 63	64	65-72	73	74-80
STOP VOLTAGE	0	FLU	FLU	FLU	FLU	FLU	5.0	FLU	0	NC	0	NC
PLAY VOLTAGE	5.0	FLU	FLU	FLU	FLU	FLU	5.0	FLU	4.9		0	

NOTE:18PIN-CAL TONE ON 36PIN-EMPHASIS ON

IC501 502(PCM56)

MEASURING PIN NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
STOP VOLTAGE	-5	0	5	0	2.3	2.4	0	-5	0	0	0	0	0	-2.5	2.5	5

NOTE IC501(PIN 7) PLAY MODE-1.6V IC502(PIN 5) PLAY MODE-1.1V

IC503 504 507(LA6458)

MEASURING PIN NO	1	2	3	4	5	6	7	8
STOP VOLTAGE	0	0	0	0	0	0	0	5

IC505(NJM4556)

MEASURING PIN NO	1	2	3	4	5	6	7	8
STOP VOLTAGE	0	0	0	-11	0	0	0	10.6

IC551(74HC041M)

MEASURING PIN NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14
STOP VOLTAGE	2.5	2.5	2.5	2.4	2.4	2.5	0	2.6	2.6	2.5	2.5	0	5.0	5.0

TRANSISTOR

TRANSISTOR NO.	Q101			Q201			Q202			Q504			Q505		
MEASURING PIN NO.	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
PLAY VOLTAGE	5.0	1.0	4.6	0	0	-4.8	3.5	2.0	5.0	0	0	0.6	0	0	0.6
STOP VOLTAGE	4.0	1.8	3.4	0	FLU	-4.8	3.5	3.5	0	0	0	-5.0	0	0	-5.0

TRANSISTOR NO.	Q506			Q507			Q551			Q552					
MEASURING PIN NO.	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
PLAY VOLTAGE	0	0	0.6	0	0	0.6	5.0	0	5.0	0	5.0	0			
STOP VOLTAGE	0	0	-4.9	0	0	-4.9	5.0	4.9	0	0	0	3.7			

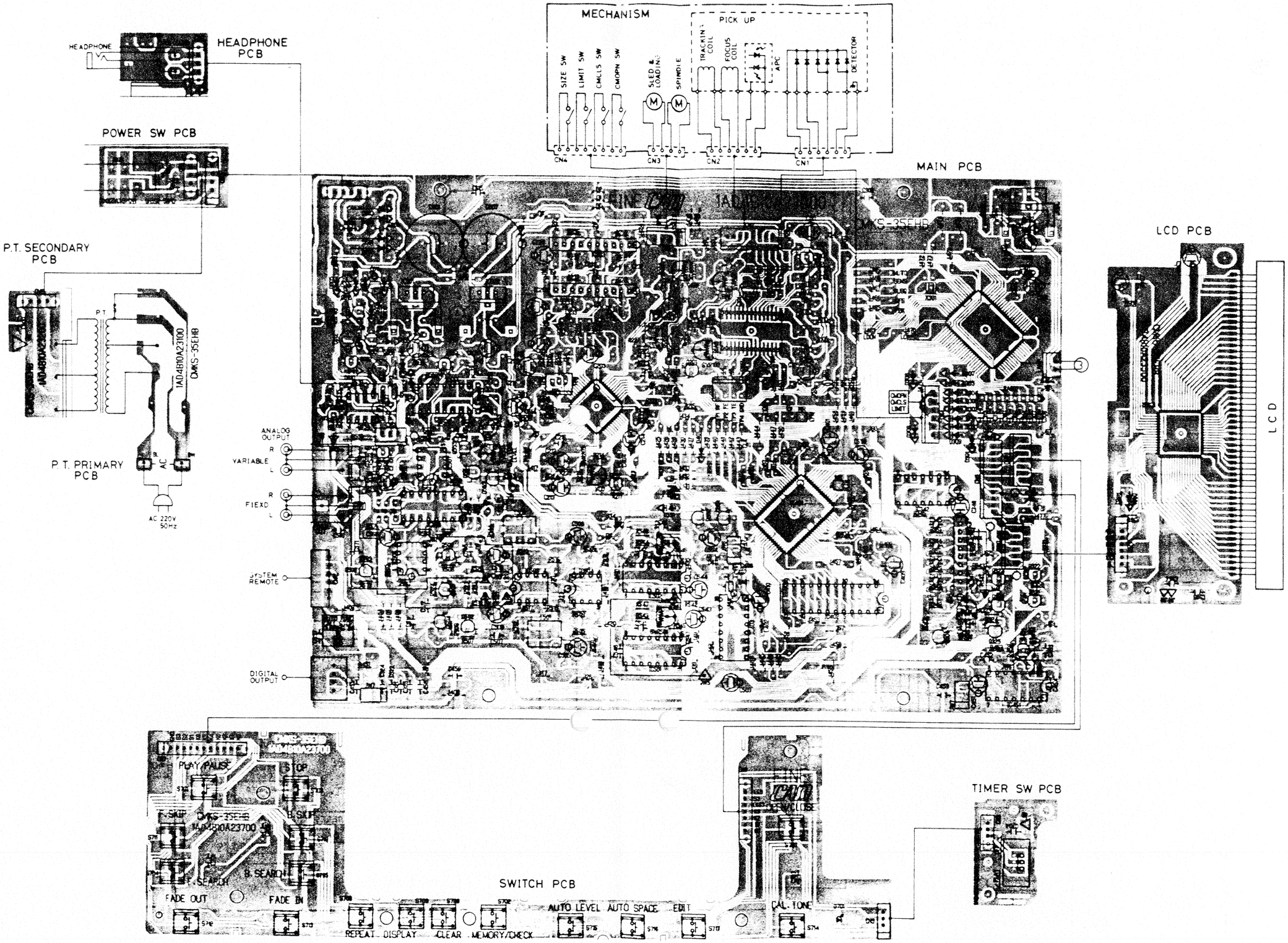
TRANSISTOR NO.	Q321			Q322			Q323			Q324			Q325		
MEASURING PIN NO.	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP VOLTAGE	0	4.7	0	4.8	3.9	4.8	0	4.8	0	4.8	3.9	4.8	0	0	5.0

TRANSISTOR NO.	Q451			Q502			Q503			Q508			Q601		
MEASURING PIN NO.	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP VOLTAGE	0	5.0	0	0	0	0.6	0	0	0.6	4.8	4.8	4.9	5.0	0	5.0

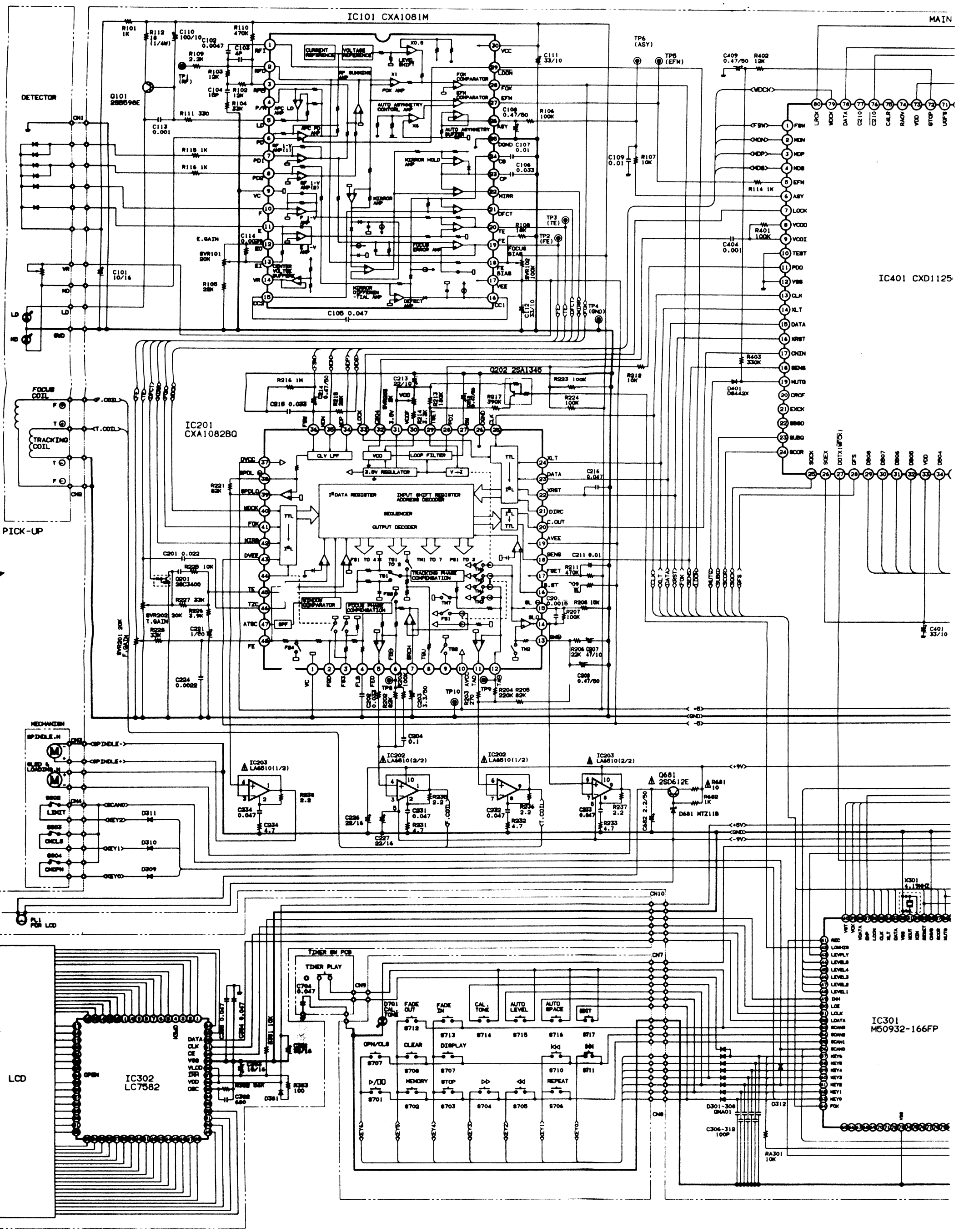
TRANSISTOR NO.	Q602			Q603											
MEASURING PIN NO.	E	C	B	E	C	B									
STOP VOLTAGE	0	5.0	0	5.0	0	0.6									

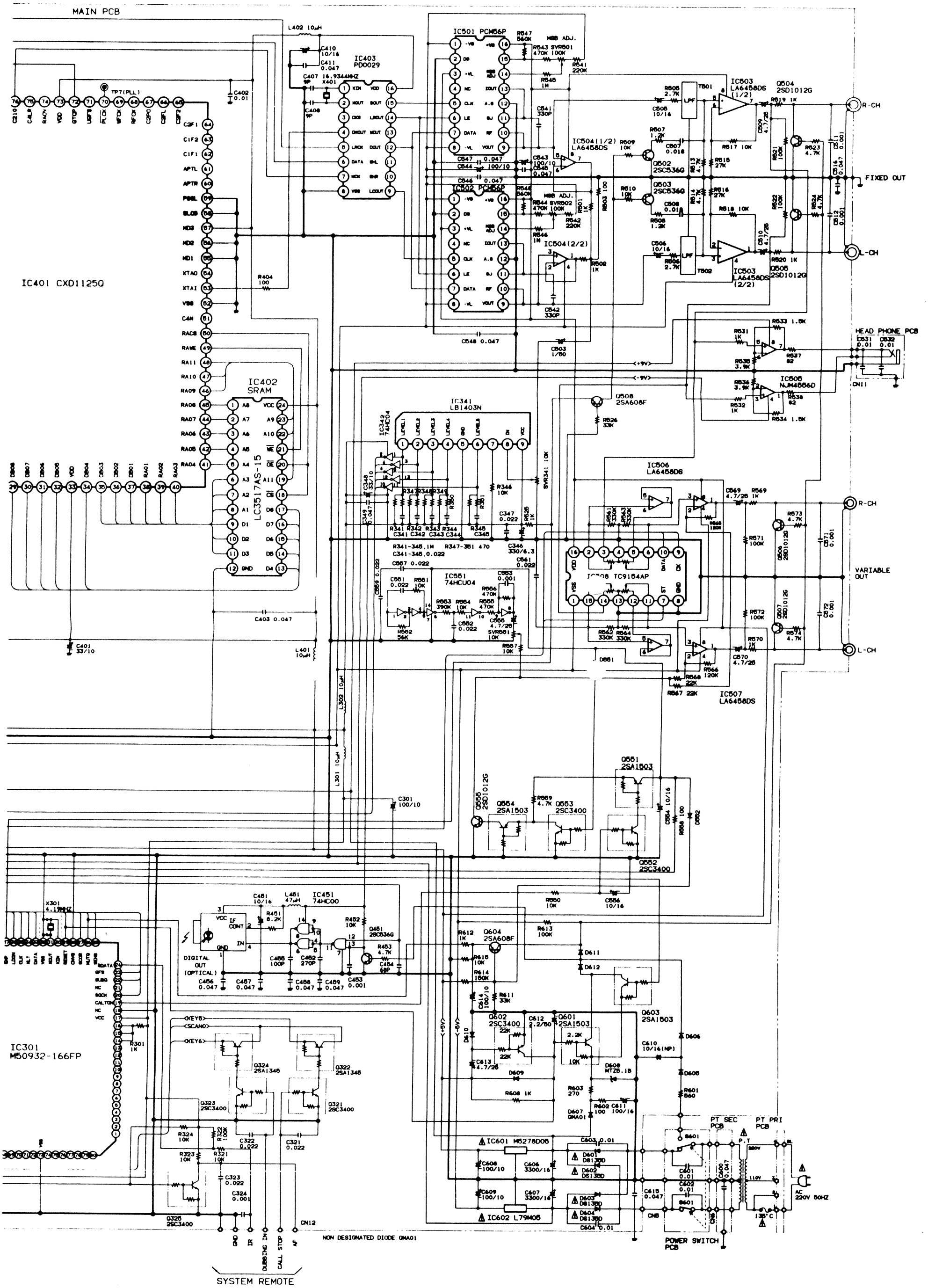
NOTE:Q502 Q503 Q508-EMPHASIS ON
Q552-CAL TONE ON

WIRING DIAGRAM

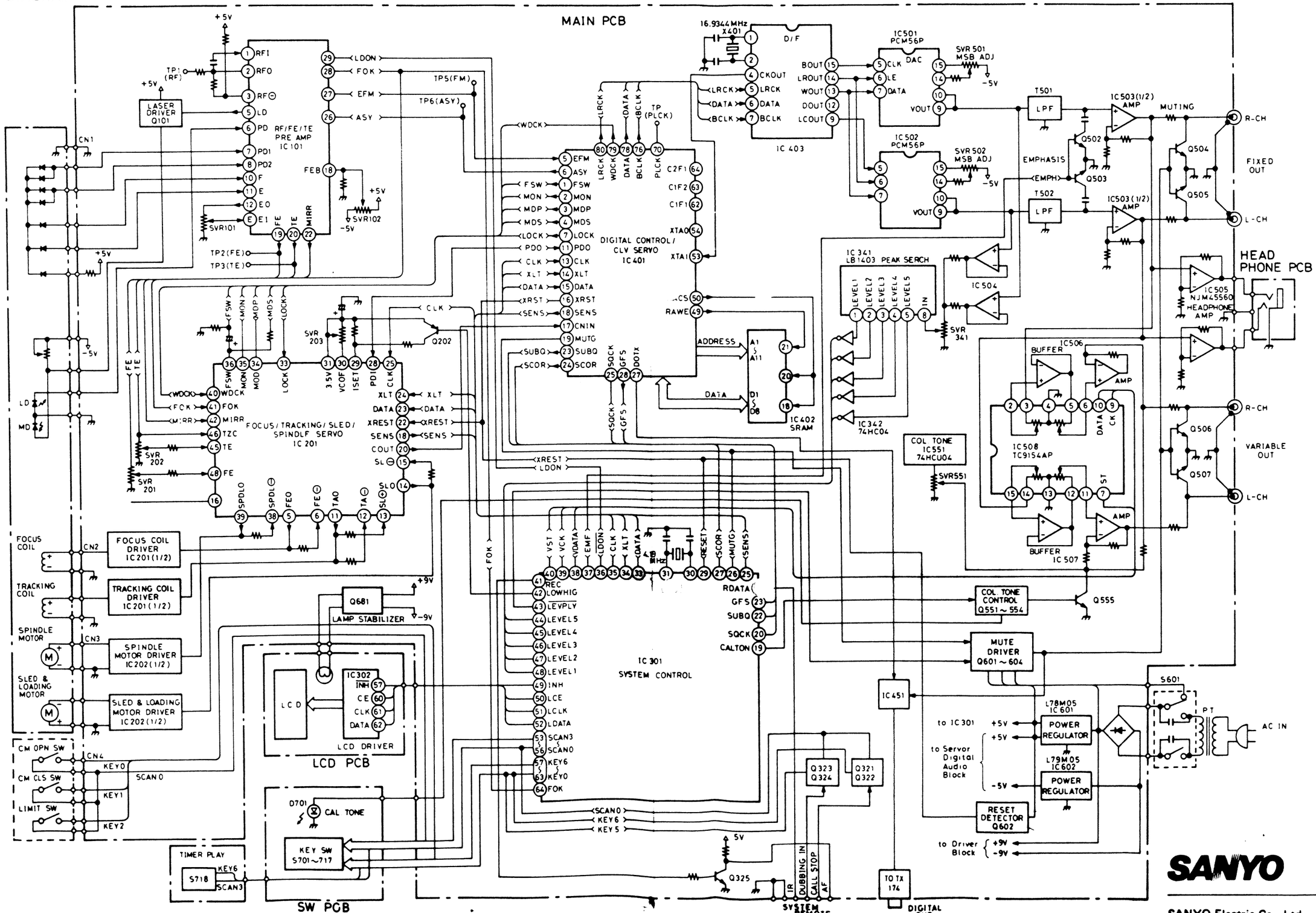


CHEMATIC DIAGRAM




MAIN PCB
IC401 CXD1125Q
IC402 SRAM LC3517AS-15
IC403 PD0029
IC501 PCM56P
IC502 PCM56P
IC503 LA6458D6 (1/2)
IC503 LA6458DS (2/2)
IC504(1/2) LA6458DS
IC504(2/2)
IC506 LA6458DS
IC506 NJM4556D
IC507 LA6458DS
IC341 LB1403N
IC342 74HC04
IC551 74HCU04
IC451 74HC00
IC301 M50932-166FP
IC601 M5278D05
IC602 L79M05
Q504 2SD1012G
Q505 2SD1012G
Q506 2SD1012G
Q507 2SD1012G
Q508 2SA608F
Q604 2SA608F
Q502 2SC536Q
Q503 2SC536Q
Q551 2SA1503
Q552 2SC3400
Q553 2SC3400
Q554 2SA1503
Q555 2SD1012G
Q601 2SA1503
Q602 2SC3400
Q603 2SA1503
Q321 2SC3400
Q322 2SA1345
Q323 2SC3400
Q324 2SA1345
Q326 2SC3400
Q451 2SC536Q
R-CH
L-CH
FIXED OUT
VARIABLE OUT
HEAD PHONE PCB
POWER SWITCH PCB
PT SEC PCB
PT PRI PCB
AC 220V 50HZ
SYSTEM REMOTE
NON DESIGNATED DIODE GMA01
DIGITAL OUT (OPTICAL)

BLOCK DIAGRAM



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SANYO Electric Co., Ltd.
Osaka, Japan

Jun/'89/3800 NS Printed in Japan

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Correction Notice

Please add this notice to the Service Manuals listed below.

Category : **Compact Disc Player** Date : **Aug. 28 1989**

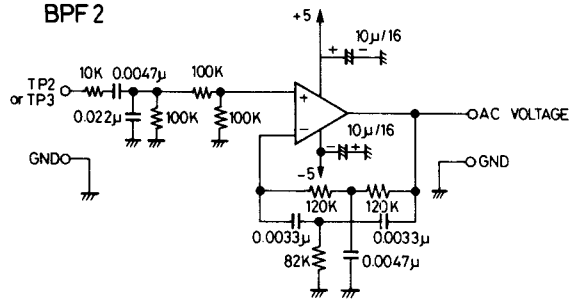
Model : **CP8500**

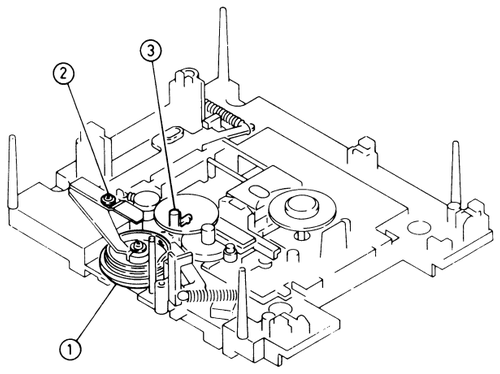
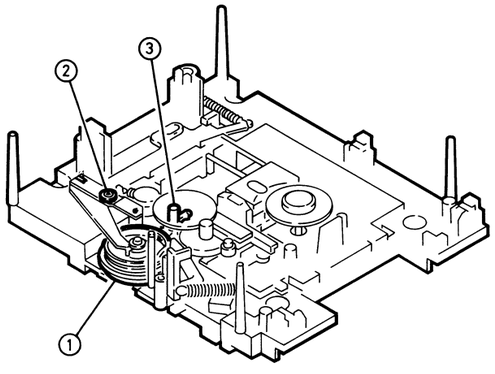
Destination : **W. GERMANY, ITALY SPAIN, EUROPE** REF : **WM-580261** Issue Number **1**

The following items ware misprinted. Please make the necessary revisions as indicated in the Service Manual listed above.

Page & Section	Key No.		Description
Cover Specification		Old	Digital output . . . . . −21 to −15 dB
		New	Digital output . . . . . −21 to −15 dBm
Page 4 Adjustment		Old	**1. PLL VCO (Phase Locked Loop Voltage Control Oscillator) Adjustment** 1. Connect TP6 to TP4 (Gnd). : 4. Adjust SVR203 so that the frequency counter shows 4.40 ± 0.005 MHz.
		New	1. Connect TP6 (ASY) to TP4 (Gnd). : 4. Adjust SVR203 so that the frequency counter shows 4.50 ± 0.005 MHz.
Page 5 Adjustment		Old	**5. Tracking Gain Adjustment** 5. In case of the storage scope (through the B.P.F-1), adjust SVR202 so that the voltage of the FE signal waveform is 600 mVp-p. In case of the AC voltage meter (through the B.P.F-2), adjust SVR202 so that the voltage of the signal waveform is 600 mV rms. (permitted quantity: 5%)
		New	5. In case of the storage scope (through the B.P.F-1), adjust SVR202 so that the voltage of the FE signal waveform is 400 mVp-p. In case of the AC voltage meter (through the B.P.F-2), adjust SVR202 so that the voltage of the signal waveform is 400 mV rms. (permitted quantity: 5%)
		Old	**3. Focus Gain Adjustment** 1. Connect the storage scope to TP2 (F.E) through the Band pass filter-1 (See fig.), or connect the AC voltage meter to TP2 through the Band filter-2 (see fig.). 5. In case of the storage scope (through the B.P.F-1), adjust SVR201 so that the voltage of the FE signal waveform is 600 mVp-p. In case the AC voltage meter (through the B.P.F-2), adjust SVR201 so that the voltage of the FE signal waveform is 600 mVp-p. (permitted quantity: 5%)

Continued back page ☛

Page & Section	Key No.		Description
Page 5 Adjustment		New	**3. Focus Gain Adjustment** 1. Connect the storage scope to TP2 (F.E) through the Band pass filter. (Fig.) 5. Adjust SVR201 so that the voltage of the FE signal waveform is 600 mVp-p on the storage scope (through the B.P.F). (permitted quantity: 5%)
		Old	**5. Tracking Gain Adjustment** 1. Connect the storage scope to TP3 (TE: Tracking error) through the B.P.F-1 (see fig.), or connect the AC voltage meter to TP3 through the B.P.F-2 (see fig.). 5. In case of the storage scope (through the B.P.F-1), adjust SVR202 so that the voltage of the FE signal waveform is 600 mVp-p. In case of the AC voltage meter (through the B.P.F-2), adjust SVR202 so that the voltage of the signal waveform is 600 mVrms. (permitted quantity: 5%)
		New	**5. Tracking Gain Adjustment** 1. Connect the storage scope to TP3 (TE: Tracking error) through the B.P.F-1 (see fig.). 5. Adjust SVR202 so that the voltage of the FE signal waveform is 600 mVp-p on the storage scope (through the B.P.F). (permitted quantity: 5%)
Page 6 Adjustment		Old	(ADD)
		New	**7. CAL TONE Adjustment** 1. Connect the voltage meter to VARI out. 2. Insert the test disc. (Stop or Pause) 3. Press the CAL TONE, then adjust SVR551 so that the voltage is 1.3 Vrms. **8. Peak Hold Level Adjustment** 1. Connect the function generator to the ⊖ terminal of C503. And, connect the DC volt meter to 6 pin of IC341. 2. Apply 300 mVrms from the function generator. 3. Confirm that the voltage of DC volt meter indicates 5V by turn to the left for SVR301. 4. Turn to the right slowly for SVR301, and adjust SVR301 at the point where the voltage indicates the leading edge (L → H: 5V). 5. Pack Hold Level Confirm (programme the following Track No.). Playback, then after peak search confirm so that the LCD AUTO level (following points) does not display. [not-display point] ○ YEDS-7 (SONY), Tr No. 16 (−3 dB) . . . AUTO LEVEL 6 ○ YEDS-7 (SONY), Tr No. 17 (−6 dB) . . . AUTO LEVEL 5, 6 ○ YEDS-7 (SONY), Tr No. 18 (−10 dB). . . AUTO LEVEL 4, 5, 6
		Old	BPF 2  BAND PASS FILTER 2
		New	Delete

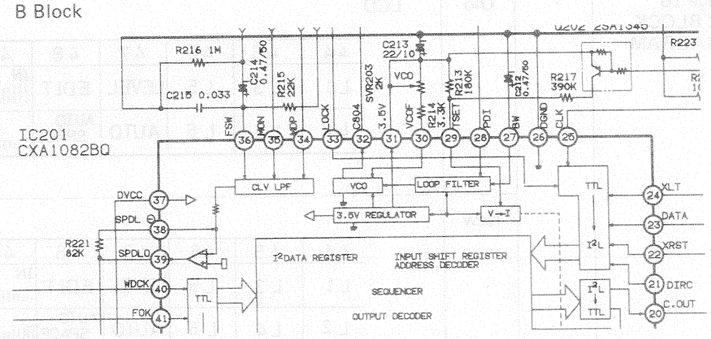
Page & Section	Ref. No.		Part No.	Description	Q'ty
Page 8 PARTS LIST		Old	614 209 8141	INNER CARTON	1
		New	614 209 8141	INNER CARTON (EUROPE)	1
			614 209 8134	INNER CARTON (SPAIN)	1
			614 209 8158	INNER CARTON (W. GERMANY)	1
			614 209 8172	INNER CARTON (ITALY)	1
		Old	614 209 8219	INSTRUCTION MANUAL	1
		New	614 209 8219	INSTRUCTION MANUAL (EUROPE)	1
			614 209 8202	INSTRUCTION MANUAL (SPAIN)	1
			614 209 8226	INSTRUCTION MANUAL (W. GERMANY)	1
			614 209 8240	INSTRUCTION MANUAL (ITALY)	1
	10	Old	614 209 7779	PANEL, REAR	1
		New	614 209 7779	PANEL, REAR (EUROPE)	1
			614 209 7762	PANEL, REAR (SPAIN)	1
			614 209 7786	PANEL, REAR (W. GERMANY)	1
			614 209 7809	PANEL, REAR (ITALY)	1
Page 3 Adjustments		Old		 Fig-1	
		New		 Fig-1	

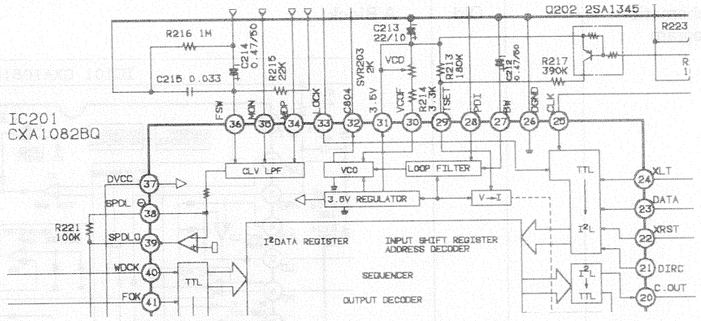
Page & Section	Ref. No.		Description
Page 16 IC BLOCK DIAGRAM		Old	LCD
		New	
Schematic-diagram		Old	A Block
		New	A Block

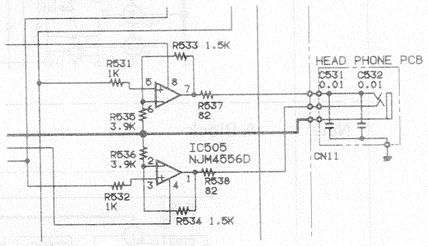
44	45	46	47	48	49	50	51	52
L1	L3	L5	LEVEL	EDIT	IN	SIDE-A	COM	—
L2	L4	L6	AUTO	AUTO SPACE	OUT	SIDE-B	—	COM

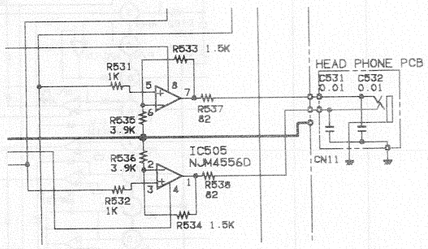
Note: Reber to the Figure (Page-5) for the Schematic-digram.

Page & Section	Ref. No.		Description
Schematic-diagram		Old	B Block
		New	B Block
		Old	C Block
		New	C Block









C

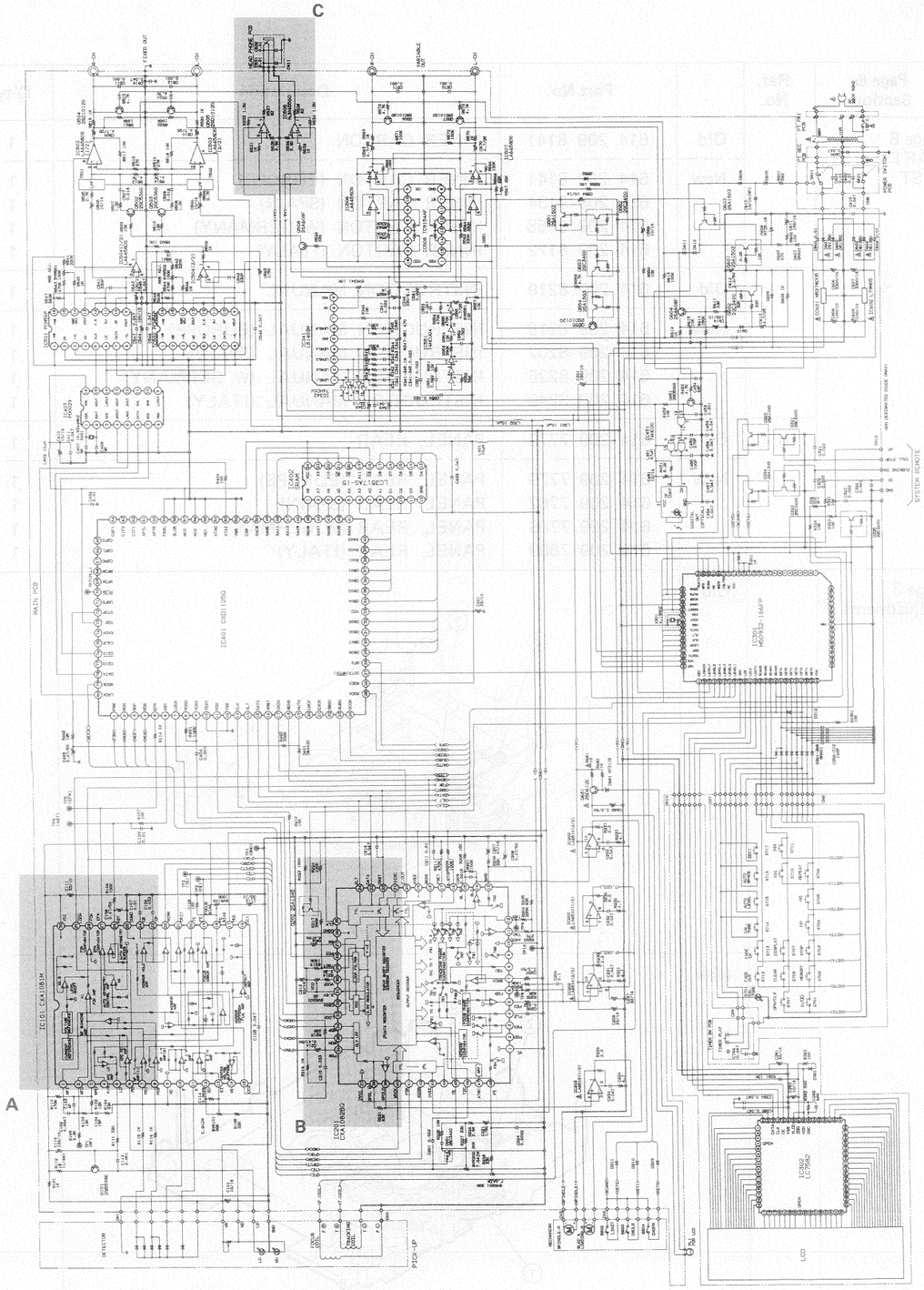


Figure (indicate for correcting part of the Schematic-diagram)

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